ICM CONTROLS™

Our products are Quality-Built in the U.S.A.



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HVACR Controls and SimpleComfort® Thermostats

A Leading Manufacturer of Heating, Ventilating, Air Conditioning and Refrigeration Controls

For information on our complete range of American-made products – plus wiring diagrams, troubleshooting tips and more, visit us at

www.icmcontrols.com

Made in USA



ICM Controls World Headquarters

ICM Controls leads the HVACR industry in the manufacture of electronic controls. We have achieved this position through product and process innovation, and we strive to maintain this position through extensive capitalization, focusing on our greatest manufacturing strength: true vertical integration. The **ICM Controls** manufacturing plant, located in North Syracuse, New York, is one of the most vertically integrated facilities in the country.

Serving both the OEM and the aftermarket, our goal has been to provide our customers with the most technologically advanced products at the greatest value – without compromise in quality. The ability to quickly take a control from concept to prototype to production has become an **ICM Controls** trademark.

We are proud to be American made. **ICM Controls** personnel are committed to your satisfaction. Please do not hesitate to call us with your questions, comments, or special control application requirements.

ICM Controls' Sales, Customer Service, and Engineering teams remain at your service.



ICM CONTROLS™

The name to know for controls.

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HVACR CONTROLS

CONDENSATION CONTROL/ALARM

REPLACEMENT MODEL	ICM P/N
Water Guard: 401475	ICM340

DELAY ON MAKE TIMERS

REPLACEMENT MODEL	ICM P/N
A-1: 7061	ICM103
A-1: EAC-701-ADJ	ICM102
A-1: EAC-710-180, EAC-701-180-W, EAC-700-A	ICM100
A-1: EAC-710-300, EAC-701-300-W	ICM101
Carrier: HN67KZ002	ICM151
Diversified: ASC-200	ICM150
Diversified: AC-800	ICM102, ICM105
Diversified: ASC-600, ASC-601	ICM105
Diversified: ASC-600-3, ASC-601-3	ICM100
Gemline: 1C213	ICM102, ICM103, ICM105
Gemline: 1C310	ICM102, ICM105
Ice-O-Matic: TD3001A	ICM103
MARS: 32019, 32391, 32367	ICM102
MARS: 32394, 32396	ICM103
MARS: 32091	ICM105
MARS: 32395	ICM175
MARS: 32377, 32397	ICM500
MARS: 32378, 32398	ICM501
MARS: 32379, 32399	ICM502
MARS: 32350	ICM500D-C-11
MARS: 32351	ICM501D-C-11
MARS: 32352	ICM502D-C-11
MARS: 32361,32362	ICM150
Robertshaw: 3310-068	ICM103
Supco: TD32	ICM175
Supco: TD68	ICM105
Supco: TD69	ICM102
Supco: TD693 (18-30v)	ICM100
Supco: TD693W (18-30v)	ICM100F
Supco: TD695 (18-30v)	ICM101
Supco: TD695W (18-30v)	ICM101F
Supco: TD69W	ICM102F
Supco: TMF-19, TMF-80	ICM103
Wagner/DiversiTech: ADM-1	ICM102
Wagner/DiversiTech: ADM-2	ICM102F
York: 031-01204-000	ICM151

DELAY ON BREAK TIMERS

REPLACEMENT MODEL	ICM P/N
A-1: EAC-426-180	ICM204, ICM207
A-1: EAC-426-300	ICM205, ICM208
A-1: EAC-426-ADJ	ICM206, ICM209
A-1: EAC-500	ICM200F, ICM201, ICM201F
A-1: EAC-501-300-W	ICM201, ICM201F
A-1: EAC-501-180-W	ICM200
A-1: EAC-501-ADJ	ICM203
A-1: EAC650	ICM210, ICM212
Diversified: AC-100-3	ICM200, ICM204, ICM207
Diversified: AC-100-5	ICM205, ICM208
Diversified: AC-503	ICM203
Diversified: AC-505-5	ICM201F
Diversified: ASC-500-5	ICM201
MARS: 32390	ICM201
MARS: 32005, 32505	ICM201F
MARS: 32001, 32387, 32392	ICM203
MARS: 32381	ICM204, ICM207
MARS: 32382	ICM205, ICM208
MARS: 32565	ICM209
Robertshaw: 3310-072	ICM203
Robertshaw: 3310-183	ICM204, ICM207
Robertshaw: 3310-305	ICM205, ICM208
Supco: TD72, TD73	ICM203
Supco: TD733 (18-30v)	ICM200
Supco: TD733W (18-30v)	ICM200F
Supco: TD735 (18-30v)	ICM201
Supco: TD735W (18-30v)	ICM201F

DELAY ON BREAK TIMERS (continued)

REPLACEMENT MODEL	ICM P/N
Supco: TD73W	ICM203F
Supco: TD74	ICM206
Supco: TD74H	ICM209
Supco: TL243	ICM204
Supco: TL243	ICM207
Supco: TL245	ICM205, ICM208
Trane: X13270061-01	AMS
Wagner/DiversiTech: ADB-1	ICM203
Wagner/DiversiTech: ADB-2	ICM203F

DEFROST CONTROLS

REPLACEMENT MODEL	ICM P/N
Amana: C64301-1, C64310-1	ICM300
Arcoaire: 32312-00, 3232140	ICM300
Artesian: 10321-00	ICM300
Avion: DFT100	ICM315
Carrier: CES0110063-00, -01, -02, -02A	ICM321
Carrier: CES0130024-00	ICM322
Carrier: HK25SZ359/9A	ICM320
Carrier: HK32FA006	ICM320
Carrier: HK32FA001, A003, A008	ICM350
Coleman: 3030A374	ICM300
Essex: 621-1 to 621-10, 621-110, 621-111, 621-310-110	ICM300
Evcon: 9218-374	ICM303
Fast: 1093410	ICM307
Goettl: 305007	ICM301
Goettl: 305023	ICM329
Goettl: 305057	ICM324
Goodman: B12260-06	ICM300
Goodman: B1226008	ICM318
Heil Quaker: HQ1052757	ICM300
Honeywell: ST74A1004/20/38	ICM300
ICM: AG1004	ICM329
ICM: AJ1008	ICM324
ICM: DFORB24A2I300	ICM319
ICM: DFORB-AB1004	ICM302
ICM: DFORF	ICM303
ICM: DFOSP24A2	ICM301
ICM: W1001-4	ICM318
ICP: 1052757	ICM300
ICP: 1069364	ICM304
ICP: Heat active (B) RV	ICM323
Intertherm: 6208800	ICM300
Lennox: 33G9501	ICM300
Lennox: 86G16	ICM307
MARS: 32572	ICM300
Nordyne: 621301A	ICM302
Nordyne: 621579B, 621579C	ICM302
Nordyne: 917178	ICM302
Nordyne: 624519A	ICM319
Ranco: DT2	ICM307
Ranco: E-15	ICM315
Rheem: 47-21776-01/06	ICM300
Robertshaw/Uni-Line: TD-10, DT2-1000	ICM300
Snyder General: 1395-329	ICM300
Steveco: 90-621	ICM300
Therm-O-Disc: 26E-10	ICM300
Trane: 21C142827G01	ICM316
Trane: CNT1152, CNT1642	ICM316
Weatherking (Addison): 840-4-5548	ICM300
White-Rodgers: 90-621	ICM300
York: 03101251000	ICM303
York: 9218-3741	ICM303

DUTY CYCLE CONTROLS

REPLACEMENT MODEL	ICM P/N
Carrier: HN67ZA012A	ICM305
SSAC: ESDR, TSDR Series	ICM305
SSAC: ESDR, TSDR Series	ICM306
Carrier: HH84AA017, HH84AA018	ICM278

FAN BLOWER CONTROLS

REPLACEMENT MODEL	ICM P/N
Texas Instruments: 2FD-1	ICM272
A-1: 5893	ICM255
Bard: 8201-056	ICM255
Carrier: 302075-3, CES0110017, CES0110018,	ICM271
Carrier: CES0110019	ICM275
Carrier: HH84AA001/003/005/009/014/015/021	ICM275
Carrier: HH84AA010/011/012/013/020, P771-7002	ICM271
Carrier: HK51GA003	ICM276
Carrier: HK61GA001/03	ICM272
EMI: 240000-969	ICM273
EMI: 240-1764	ICM274
Evcon: 2702-300	ICM270
Field Controls: 46144700	ICM253
Gemline: 1C216	ICM253
Goodman: B1370735S, PCBFM131S	ICM277
Honeywell: S876A1016	ICM254
MARS: 32377, 32378, 32379	ICM251
MARS: 32393	ICM253
MARS: 32574	ICM255
Rheem: 42-22515-01/02/03	ICM255
Rheem: 47-22827-01	ICM270
Rheem: 47-22827-81/82/83	ICM270
Rheem: 47-22828-01/02	ICM270
Rheem: 47-23619-02/03	ICM276
Robertshaw: 457-23619-03	ICM276
Robertshaw: RS100-833-02	ICM276
Robertshaw: 695-003	ICM270
Robertshaw: 695-100	ICM271
Robertshaw: 695-101	ICM275
Snyder General/ICP: 1395336	ICM255
Watsco: PSTD-000-005W, PSTD-000-060W	ICM254

FAN COIL RELAY CONTROL BOARDS

REPLACEMENT MODEL	ICM P/N
BSR/Xactone: FC/H-1	ICM6201
BSR/Xactone: FC/H-2	ICM6201
Honeywell: W6380B	ICM6200

FAN SAFETY ALARM

REPLACEMENT MODEL	ICM P/N
Functional Devices: RIBMNLB-6	ICM6100

FURNACE CONTROL BOARDS

REPLACEMENT MODEL	ICM P/N
Carrier: 325878-751	ICM282
Carrier: CES0110057-00/01/02	ICM281
Carrier: CES0110020, CES0110048	ICM281
Carrier: CES0110074-01	ICM2804
Carrier: HK42FZ-004/007/008/009/011/013/016/034	ICM282A
Carrier: HK42FZ05/10/15/17, 325879-751 Kit	ICM2807
Carrier: HH84A016	ICM281
Carrier: LH33WP003/3A	ICM291
Goodman: PCBBF112S, B1809926S	ICM286
Goodman: B18099-04	ICM287
Goodman: B18099-06/08/10/13/13S	ICM280
Lennox: All BCC1, BCC2, BCC3 circuit boards, including 48K98	ICM289
Nordyne: 903106-Kit	ICM2805A
Rheem: 62-24140-04	ICM292
Rheem: 62-24084-82	ICM288
Texas Instruments: 41F-5	ICM280
UTEC: 1012-933D	ICM280
White-Rodgers: 50T35-730	ICM280
White-Rodgers: 50T35-743	ICM280
York: 03101280000	ICM284
York: 331-030100000, 331-02956000	ICM2808
York: 7990-319P	ICM2801

GAS IGNITION CONTROLS

REPLACEMENT MODEL	ICM P/N
Honeywell: S8610U (and compatible Camstat, Fenwal, HSC, Penn-Johnson, Robertshaw and White Rodgers models)	ICM290A

HVACR CONTROLS

REPLACEMENT MODEL	ICM P/N
Honeywell: S8910U-1000	ICM283
Carrier: LH33WZ510	ICM295
Carrier: LH33WZ512A	ICM296
Johnson Controls: G776 (63K2401, 41K8701, 69J3601)	ICM293, ICM2902
Johnson Controls: G770RJA-1	ICM294, ICM2901
Lennox: 30W33	ICM293
Robertshaw: 745 (95H04), 745L (18G91)	ICM293
Robertshaw: H5780	ICM283
White Rodgers: 50E47, 50F47	ICM283
York: 025-27762-700	ICM294

HEAD PRESSURE CONTROLS	
ACT: FM2000	ICM325HN
ACT: FM4000	ICM327HN
ACT: FM4000	ICM326HN
Hoffman: 800, 800A, 800AA, 814-50, 816-10	ICM325HN, 326HN, 327HN
Johnson Controls: P66AAB/AAD	ICM330 (DIN Rail), ICM332 (For 1 temp or 1 pres input)
Johnson Controls: P66BAB/BAD	ICM333 (For 2 temp or 2 pres inputs)
Mitsubishi: MU09NW, MUH09NW, MU12NN, MU15NN, MU17NN, MUM18NW, MUM30NN, MUM30NN2	ICM326HM2
Ranco: E31	ICM325HN, 326HN, 327HN
Optional Pressure Transducer	ICM380

IMPEDANCE/LOCKOUT RELAY	
Essex: Relay Series 84,93	ICM220

LEAD-LAG CONTROLLERS	
Regulates 1 or 2 Heating/Cooling Systems	ICM600
Open Board Version of ICM600	ICM601
Open Board Lead-Lag Control	ICM602

LINE MONITORS	
A-1: EAC-401, 402, 403, 404	ICM491
A-1: EAC-800, EAC-8000, EAC-8002	ICM400, ICM450, ICM450S, ICM455
Bristol: 241680	ICM441
Copeland: 071-0376-01 & -02, 071-0397-00 & -01, 071-0424-00 & -01, 071-9800-01 & -02	ICM441
Copeland: 085-0160-00	ICM450, ICM450S, ICM455
Diversified: AC-2020, AC-301, AC-302	ICM400, ICM450, ICM450S, ICM455
Diversified: CV-100-RS, CV-200-RS15, CV-200-RS20	ICM491
Function of ICM400C, DIN Rail Mount	ICM409
Function of ICM400C, Plug-in Panel Mount	ICM408
MARS: 32512, 32515, 32516, 32517	ICM400
MARS: 32536	ICM401, ICM402
MARS: 32532, 32534, 32540, 32541, 32542	ICM408
MARS: 37300, 37302, 37304, 37306, 37322	ICM441
MARS: PFM-2000	ICM450
Motorsaver: 455	ICM400, ICM450, ICM450S, ICM455
SSAC: QLM, QLV	ICM400, ICM450, ICM450S, ICM455
Supco: TPMP2	ICM401, ICM402
Texas Instruments: 15AA1600B, 15AA1600C, 15AA1603B, 15AA1603C, 31AA1600E, 31AA1606E	ICM441
TimeMark: 265	ICM400, ICM450, ICM450S, ICM455
Wagner/DiversiTech: DSP-1	ICM491, ICM492
Wagner/DiversiTech: DTP-3, WPC-800	ICM400, ICM450, ICM450S, ICM455

MOTOR STARTERS/RAPID START	
5-2-1: CSR-U1	ICM803, ICM866U
5-2-1: CSR-U2/U3	ICM805, ICM866U
A-1: WSX-5	ICM855
A-1: WSX-6	ICM856
Kickstart: KS1	ICM805, ICM866U
Kickstart: TO5, KS8	ICM803, ICM866U
MARS: 32701, 35701	ICM855
MARS: 32702, 35702	ICM856
MARS: 32481	ICM857
Supco: SPP-5	ICM855
Supco: SPP-5E	ICM850, ICM866U
Supco: SPP-6	ICM856
Supco: SPP-6E	ICM860, ICM866U
Supco: SPP-8, SPP-8E	ICM803, ICM866U
Supco: RCO210	ICM859
Supco: RCO410	ICM858
Supco: RCO810	ICM857
Wagner/DiversiTech: DST-5	ICM855
Wagner/DiversiTech: DST-6	ICM856

UNIVERSAL MOTOR STARTING RELAYS	
Supco: SUPR, APR5	UMSR-30, UMSR50

OIL BURNER PRIMARY CONTROL	
Carlin: 48245	ICM1503
Honeywell: R8184G: 4009, 1138, 1427, 4025	ICM1503
Honeywell: R8184G: 4066, 1161, 1294	ICM1501
Honeywell: R8184G: 4074, 1179, 1302, 4033	ICM1502
White-Rodgers: 668-401	ICM1503

SURGE PROTECTION	
Ditek: DTK-120/240CM	ICM515
Supco: SCM	ICM515
Supco: SCMPlus, SCM150	ICM516

SIMPLECOMFORT® THERMOSTATS

REPLACEMENT MODEL	ICM P/N
7-DAY PROGRAMMABLE THERMOSTATS	
Honeywell: T8011R Series	SC3211L
Honeywell: T8112D, T8000C, T8600D Series	SC3000L
Honeywell: TH6110D1005, TH6110D1021	SC5010
Honeywell: TH6220D1002, TH6220D1028	SC5811 (Hardwired only)
Honeywell: TH6320U1000, TH8320U1008	SC5813 (Hardwired only)
Honeywell: T8600D2028, TH4110D1007, TH2110D1099	SC3010L, SC5010
Honeywell: TH4210D1005, TH2110D1007	SC3211L (Hardwired only)
Robertshaw: 300-227	SC5812, SC5813
Robertshaw: 300-229, 9615	SC5811
Robertshaw: 8600-1, 9600, 9610, RS3110	SC3000L, SC3010L
Robertshaw: 8601-1	SC3001L
Robertshaw: 8625-1	SC3211L (HP only), SC5811
Robertshaw: RS5110, RS6110	SC5010
White-Rodgers: 1F78-151	SC3000L
White-Rodgers: 1F80-361, 1F80-0261, 1F87-361	SC3010L
White-Rodgers: 1F80-0471, 1F80-0671, 1F97-1277	SC5010
White-Rodgers: 1F72-151, 1F82-261, 1F82-0261	SC3211L
White-Rodgers: 1F81-261, 1F85-0422	SC5811
White-Rodgers: 1F85-275, 1F85-277, 1F85-0471	SC5813 (w/2-stage HP only)
White Rodgers: 1F93-380, 1F95-1277	SC5812 (HW only; w/2-stage HP only)
Robertshaw: 8400-1, 9400, 9500, RS2110	SC2000L, SC2000VL, SC2010L
Robertshaw: 8401-1, 9401	SC2001L, SC2001VL
Robertshaw: 8405-1, 9405, 9505	SC1800L, SC1800VL
Robertshaw: 8425-1, 9420, 9520	SC2211L
Robertshaw: 9415, 9555	SC4811
Robertshaw: 9550	SC4010, SC4011
Robertshaw: 9560	SC4211
Robertshaw: RS2210	SC2311L
Robertshaw: RS4110	SC4010
White-Rodgers: 1E56, 1F56 Series	SC1001, SC1001V
White-Rodgers: 1E78-140 Vertical	SC1600VL, SC1800VL
White-Rodgers: 1F78-144	SC2000L, SC2000VL
White-Rodgers: 1F86-344, 1F86-0244	SC2010L
White-Rodgers: 1F86-0471	SC4010
White-Rodgers: 1F79-111, 1F89-211	SC2201L, SC2201VL, SC2211L
White-Rodgers: 1F83-261	SC4811
White-Rodgers: 1F83-277, 1F83-0422, 1F83-0471	SC4813 (w/2-Stage HP only)
White-Rodgers: Mechanical 1F30-321, 1C20-102	SC1600L, SC1600VL
White-Rodgers: Mechanical 1F51-609	SC1901L, SC1901VL

NON-PROGRAMMABLE THERMOSTATS	
Honeywell: Mechanical T810C, T822C	SC1901L, SC1901VL
Honeywell: T8034N, T834N, T822K Series	SC1001, SC1001V
Honeywell: T8400, T8401 Series	SC2000L, SC2000VL, SC2001L, SC2001VL, SC2010L
Honeywell: T8411R	SC2211L
Honeywell: T8411R, T8511G	SC2201L, SC2201VL
Honeywell: T8775A1009	SC1600L, SC1600VL, SC1800L, SC1800VL
Honeywell: T8775C1005	SC2001L, SC2001VL
Honeywell: T87F-3467, T87N1000, T87N1026	SC1001, SC1001V
Honeywell: TH1100D1001	SC1600L, SC1600VL (Battery only)
Honeywell: TH1110D1000, TH3110D1008	SC2010L
Honeywell: TH1210D1008, TH3210D1004	SC2201L, SC2201VL (Hardwired only)
Honeywell: TH5110D1006, TH5110D1022	SC4010
Honeywell: TH5220D1003, TH5220D1029	SC4811 (Hardwired only)
Honeywell: TH5320U1001	SC4812
Robertshaw: 900 Series, 9200	SC1001, SC1001V
Robertshaw: 300-201	SC4010, SC4011
Robertshaw: 300-202	SC4812, SC4813
Robertshaw: 300-203	SC4811
Robertshaw: 300-208	SC4211
Robertshaw: 300-206	SC2000L, SC2000VL, SC2001L, SC2001VL, SC2010L
Robertshaw: 300-207	SC2201L, SC2201VL
Robertshaw: 300-204	SC1600L, SC1600VL, SC1800L, SC1800VL
Robertshaw: 300-205, 8406-1	SC1901L, SC1901VL

I³-SERIES TOUCH THERMOSTATS	
Honeywell: TH8580WF	I2010W
Honeywell: VisionPro Wi-Fi	I3020W
Honeywell: VisionPro RedLINK	I2020H (2-stage heat/Cool)
Honeywell: TH9580WF	I3020W
Honeywell: Wi-Fi 9000	I3020W
Honeywell: TH8110U	I1010
Honeywell: TH8320U	I3020
Honeywell: TH8321U	I2020H (2-stage heat/Cool)
PRO1: T955WH	I3020WH
PRO1: T955, T925	I3020
PRO1: T905	I1010
PRO1: T915	I2020
White-Rodgers: 1F97-1277	I1010
White-Rodgers: 1F95-1277	I3020
White-Rodgers: 1F95-129	I2020H (2-stage heat/Cool)

TEMPORARY THERMOSTATS	
Jackson Systems: CL-45, CL-55, CL-75 (cool)	SC0: 45, 55, 75
Jackson Systems: TS-60, TS-65 & TS-70 (heat)	SC0: 60, 65, 70

Made in USA

Delay on Make Timers • Ideal for Compressor Staging

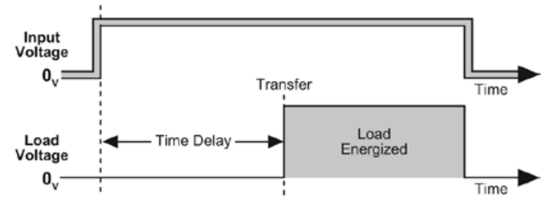
APPLICATIONS

Ideal for compressor staging and stagger starting multiple motors and other equipment. Helps to reduce power surges.

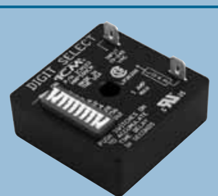
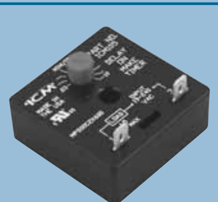
MODE OF OPERATION

When power is applied to the input, the time delay begins. After the time delay is complete, the load energizes.

TIMING DIAGRAM



Delay on Make Timers

ICM Control	Features and Applications	Specifications	Replaces
	**ICM100, 100F, 101, 101F** • Higher 1.5 amp power rating • Ideal for compressor staging/delaying the startup of motors and other devices • Works with anticipator-type thermostats • Simple 2-wire hookup • ICM100, 100F: 3-minute delay • ICM101, 101F: 5-minute delay • "F" suffix denotes 6" wire leads	• **Voltage:** 18-30 VAC • 1.5 amps • 15 amp inrush • 40 mA holding current • **Frequency:** 50-60 Hz • **Fixed delays:** 3 or 5 minutes • **Voltage drop:** 2.5 V @ 1.5 amps • **Dimensions:** 2" x 2"	**ICM100** • **A-1:** EAC-710-180 EAC-701-180-W EAC-700-A • **Diversified:** ASC-600-3, ASC-601-3 • **Supco:** TD693 (18-30 VAC) **ICM100F** • **Supco:** TD693W (18-30 VAC) **ICM101** • **A-1:** EAC-710-300 EAC-701-300-W • **Supco:** TD695 (18-30 VAC) **ICM101F** • **Supco:** TD695W (18-30 VAC)
	**ICM102, 102F** • Universal voltage operation • Higher 1.5 amp power rating • Knob-adjustable time delays • Works with anticipator-type thermostats • One model replaces many in field • Ideal for compressor staging • Simple 2-wire hookup • "F" suffix denotes 6" wire leads	• **Voltage:** 18-240 VAC • 1.5 amps • 15 amp inrush • 40 mA holding current • **Frequency:** 50-60 Hz • **Adjustable delay:** .03-10 minutes (1.8-600 seconds) • **Voltage drop:** 2.5 V @ 1.5 amps • **Dimensions:** 2" x 2"	**ICM102** • **A-1:** EAC-701-ADJ • **Diversified:** AC-800 • **Gemline:** 1C310, 1C213 • **Mars:** 32019, 32391, 32367 • **Supco:** TD69 • **Wagner/DiversiTech:** ADM-1 **ICM102F** • **Supco:** TD69W • **Wagner/DiversiTech:** ADM-2
	**ICM103** • Highly precise digital timing • Switch-settable time delays • Ideal for ice machine applications • Universal voltage operation • Repeat accuracy .5% over voltage and temperature range	• **Voltage:** 18-240 VAC • 1 amp • 10 amp inrush • 40 mA holding current • **Frequency:** 50-60 Hz • **Switch-settable delays:** Range from 1-1,023 sec. • **Voltage drop:** 2.5 V @ 1 amp • **Dimensions:** 2" x 2"	**ICM103** • **A-1:** 7061 • **Gemline:** 1C213 • **Ice-O-Matic:** TD3001A • **Mars:** 32394, 32396 • **Robertshaw:** 3310-068 • **Supco:** TMF-19, TMF-80
	**ICM104** • Highly precise digital circuitry • High power, SPDT relay output • Input to output isolation • Works with anticipator-type thermostats • Repeat accuracy .5% over voltage and temperature range • Rugged, compact package • 115 and 240 VAC models available	• **Voltage:** 18-30 VAC • **Frequency:** 50-60 Hz • **Output:** • **N.O.:** 20 amps @ 240 VAC • **N.C.:** 10 amps @ 240 VAC • **Form:** SPDT, 1 form C • **Knob-adjustable time delay:** 10-1,000 seconds • **Dimensions:** 2" x 3"	• **Mars:** 32394/32398
	**ICM105** • Low holding current • Low cost version of the ICM102 without the cooling anticipator circuitry • Ideal for compressor staging • Universal voltage operation • Knob-adjustable time delays • Simple 2-wire hookup	• **Voltage:** 18-240 VAC • 1.5 amps • 15 amp inrush • 10 mA holding current • **Frequency:** 50-60 Hz • **Adjustable delay:** .03-10 minutes (1.8-600 seconds) • **Voltage drop:** 2 .5 V @ 1 amp • **Dimensions:** 2" x 2"	• **Diversified:** AC-800, ASC-600/601 • **Gemline:** 1C310/1C213 • **Mars:** 32091 • **Supco:** TD68

Delay on Break Timers (Anti-Short Cycle Protection)

APPLICATIONS

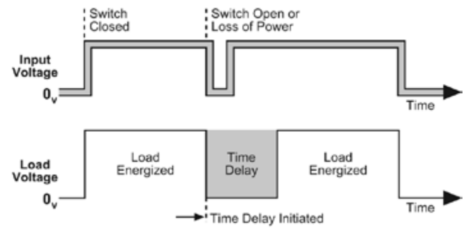
"Anti-short cycle" "ON delay on break"

Helps to protect air conditioning, refrigeration and heat pump equipment from damage which may be caused by the rapid short cycling of compressors.

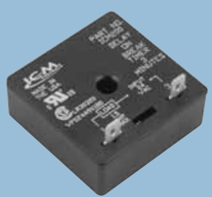
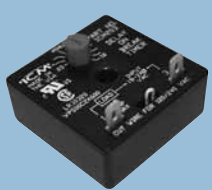
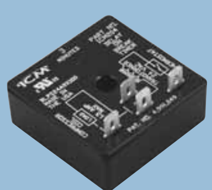
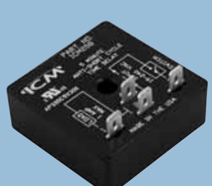
MODE OF OPERATION

Upon application of power, the load is energized. When the thermostat or other switch opens or there is a loss of power, the load is de-energized and the delay period begins. The compressor will not start again during the delay period. Restart occurs after the delay period has elapsed.

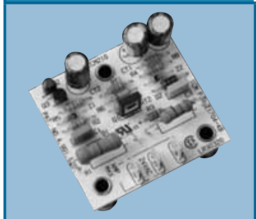
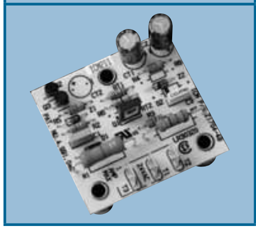
TIMING DIAGRAM



Delay on Break Timers

ICM Control	Features and Applications	Specifications	Replaces
	**ICM200, 200F, 201, 201F** • Higher 1.5 amp power rating • Compressor lockout/anti-short cycle timer • Helps to protect compressors from damage caused by rapid short cycling • Simple, 2-wire hookup • SERIES: **ICM200, 200F:** 3-minute delay **ICM201, 201F:** 5-minute delay • "F" suffix denotes 6" wire leads	• **Voltage:** 18-30 VAC • 1.5 amps • 15 amp inrush • **Frequency:** 50-60 Hz • **Fixed time delays:** 3 or 5-minutes • **Voltage drop:** • 3.5 V typical • 4.5 V maximum @ 1.5 amps • **Holding current minimum:** 40 mA • **Dimensions:** 2" x 2"	**ICM200** • **A-1:** EAC-501-180-W • **Diversified:** AC-100-3 • **Supco:** TD733 (18-30 VAC) **ICM200F** • **A-1:** EAC-500 • **Supco:** TD733W (18-30 VAC) **ICM201** • **A-1:** EAC-500, EAC-501-300-W • **Diversified:** ASC-500-5 • **Mars:** 32390 • **Supco:** TD735 (18-30 VAC) **ICM201F** • **A-1:** EAC-500, EAC-501-300-W • **Diversified:** AC-505-5 • **Mars:** 32005, 32505 • **Supco:** TD735W (18-30 VAC)
	**ICM203, 203F** • Universal voltage operation • Higher 1.5 amp power rating • Compressor lockout/anti-short cycle timer • Helps to protect compressors from damage caused by rapid short cycling • Simple, 2-wire hookup • "F" suffix denotes 6" wire leads	• **Voltage:** 18-240 VAC • 1.5 amps • 15 amp inrush • **Frequency:** 50-60 Hz • **Knob-adjustable delays:** .03-10 mins. (1.8-600 sec.) • **Voltage drop:** • 3.5 V typical • 4.5 V maximum @ 1.5 amps • **Holding current minimum:** 40 mA • **Dimensions:** 2" x 2"	**ICM203** • **A-1:** EAC-501-ADJ • **Diversified:** AC-503 • **Mars:** 32001, 32387, 32392 • **Robertshaw:** 3310-072 • **Supco:** TD72, TD73 • **Wagner/DiversiTech:** ADB-1 **ICM203F** • **Supco:** TD73W • **Wagner/DiversiTech:** ADB-2
	**ICM204, 205, 206** • Brownout protection • UL 873 recognition as compressor controller • Helps prevent scroll compressor reversal • Fast response time: 16 ms • Compressor lockout/anti-short cycle timer • Prevents low voltage starts • Eliminates relay chatter due to thermostat bounce or tampering • Works with anticipator-type thermostats • Patented: U.S. Patent No. 4,991,049 • SERIES: **ICM204:** 3-minute delay **ICM205:** 5-minute delay **ICM206:** 3-10 minute delay	• **Voltage:** 18-30 VAC • 1.5 amps • 15 amp inrush • **Frequency:** 50-60 Hz • **Adjustable time delays:** • 3 or 5-minute fixed or 10-minute adjustable time delay • **Holding current minimum:** 40 mA • **Dimensions:** 2" x 2"	**ICM204** • **A-1:** EAC-426-180 • **Diversified:** AC-100-3 • **Mars:** 32381 • **Robertshaw:** 3310-183 • **Supco:** TL243 **ICM205** • **A-1:** EAC-426-300 • **Diversified:** AC-100-5 • **Mars:** 32382 • **Robertshaw:** 3310-305 • **Supco:** TL245 **ICM206** • **A-1:** EAC-426-ADJ • **Supco:** TD74
	**ICM207, 208, 209** • Universal voltage operation • Helps prevent scroll compressor reversal • Fast response time: 16 ms • Compressor lockout/anti-short cycle timer • Eliminates relay chatter due to thermostat bounce or tampering • Works with anticipator-type thermostats • SERIES: **ICM207:** 3-minute delay **ICM208:** 5-minute delay **ICM209:** .03-10 minute delay	• **Voltage:** 18-240 VAC • 1 amp • 10 amp inrush • **Frequency:** 50-60 Hz • **Adjustable time delays:** • 3 or 5-minute fixed or 10-minute adjustable time delay • **Holding current minimum:** 40 mA • **Dimensions:** 2" x 2"	**ICM207** • **A-1:** EAC-426-180 • **Diversified:** AC-100-3 • **Mars:** 32381 • **Robertshaw:** 3310-183 • **Supco:** TL243 **ICM208** • **A-1:** EAC-426-300 • **Diversified:** AC-100-5 • **Mars:** 32382 • **Robertshaw:** 3310-305 • **Supco:** TL245 **ICM209** • **A-1:** EAC-426-ADJ • **Mars:** 32565 • **Supco:** TD74H

Delay on Break Timers (continued)

ICM Control	Features and Applications	Specifications	Replaces
	**ICM210, ICM212** • UL 873 recognition as compressor controller • Compressor lockout/anti-short cycle timer plus random start function • Dual function delay on make/break • Random start delay is ideal for stagger-starting multiple units • Low cost, open board package • Conformally coated for added protection • Order **ICM212** for plastic standoffs	• **Voltage:** 18-30 VAC • 1 amp • 10 amp inrush • **Frequency:** 50-60 Hz • **Random start time:** up to 3 seconds • **ASC time delay:** 5-minute fixed • **Voltage drop:** 2.5 V @ 1 amp • **Dimensions:** 2" x 2"	• **A-1:** EAC 650
	**ICM211** • UL 873 recognition as compressor controller • Compressor lockout/anti-short cycle timer • Low cost, open board package • Conformally coated for added protection	• **Voltage:** 18-30 VAC • 1 amp • 10 amp inrush • **Frequency:** 50-60 Hz • **ASC time delay:** 5-minute fixed • **Voltage drop:** 2.5 V @ 1 amp • **Dimensions:** 2" x 2"	Same as **ICM210** without random start time

Random Start Timers

APPLICATIONS

"Delay on make/delay on break"

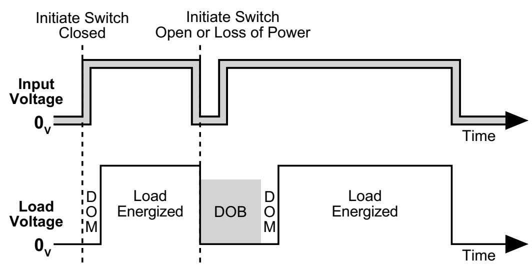
Ideal for use in compressor staging and to stagger-start multiple rooftop units. Helps to reduce power surges. No need to wait for the 5-minute delay typical of delay on make timers.

MODE OF OPERATION

Upon application of power, the delay on make period begins. Once the delay is complete, the unit energizes. Upon opening of thermostat or loss of power, the load is de-energized and the anti-short cycle period begins. The compressor will not start again during the delay period.

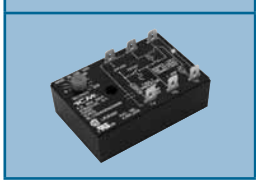
Safety Switch (ICM151): Upon interruption of power to the compressor via the pressure/limit switch(es), the compressor will be locked out until the lockout delay expires and the control is reset by cycling the thermostat OFF then ON, with the pressure/limit switch(es) closed.

TIMING DIAGRAM

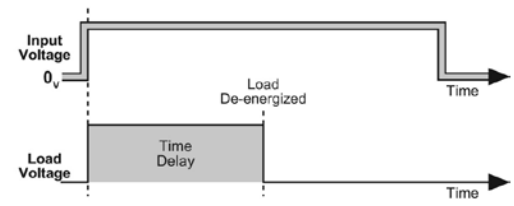


* Delay on make time is proportional to selected delay on break time.

Ideal for Stagger Starting

ICM Control	Features and Applications	Specifications	Replaces
	**ICM150** • UL 873 recognition as compressor controller • Compressor lockout/anti-short cycle timer • Integral random start capability • Random start delay is ideal for stagger-starting multiple units • Reduces nuisance lockouts/service calls	• **Voltage:** 18-30 VAC • 1 amp • 10 amp inrush • 40 mA holding current • **Form:** SPST, N.O. • **Time delay:** • 6-600 seconds knob-adjustable • Voltage drop 1.5 V @ 1 amps • **Dimensions:** 2" x 2"	• **Diversified:** ASC-200 • **Mars:** 32361, 32362
	**ICM151** • UL 873 recognition as compressor controller • Compressor lockout/anti-short cycle timer with random start feature plus: • Safety switch lockout • Remote thermostat reset • Reduces nuisance lockouts/service calls	• **Voltage:** 18-30 VAC • 1 amp • 10 amp inrush • 40 mA holding current • **Time delay:** • .1-600 seconds knob-adjustable • **Dimensions:** 2" x 3"	• **Carrier:** HN67KZ002 • **York:** 031-01204-000

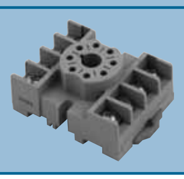
Bypass Timers

APPLICATIONS	TIMING DIAGRAM
"ON delay interval timer," "Normally closed delay on make" Designed to bypass a control or device during startup. Typically used to bypass a low pressure switch during compressor heat pump startup or to bypass an oil pressure switch upon startup. Helps to eliminate nuisance lockouts.	
MODE OF OPERATION	
With power applied to the input, the load energizes immediately and remains energized for the length of the time delay, regardless of the state of the switch being bypassed. At the end of the time delay, the condition of the load is determined by the state of the switch.	

To Bypass a Switch or Device During Startup

ICM Control	Features and Applications	Specifications	Replaces
	**ICM175** • Designed to bypass a low pressure switch or other device during startup • Ideal for low ambient startups • Key component for "winter start" kits • Helps to reduce nuisance lockouts • Universal AC voltage operation • Knob-adjustable time delay • Epoxy-encapsulated circuitry	• **Voltage:** 18-240 VAC • 1 amp maximum • 10 amp inrush • 40 mA minimum • **Frequency:** 50-60 Hz • **Knob-adjustable time delay:** 10-1,000 seconds • **Dimensions:** 2" x 2"	• **Mars:** 32395 • **Supco:** TD32

Multimode Digital Timers • Versatile, Simple, Accurate

ICM Control	Features and Applications	Specifications	Replaces
	**ICM500/501/502/503/504/505** • Multi-mode, selectable time delay ranges • Crystal timing accuracy • Microprocessor controlled • 4 single and two dual timing modes • DOM, DOB, interval, single shot • DOM/DOB and repeat cycle • Easy to select, switch-settable delays • Bright LEDs indicate input and output • Switch-settable time delays: 1 to 1,023 seconds or minutes in multiples of 0.1, 1, 10, 100 • 75 millisecond reset time during and after timing; May be reset during the time delay period without false output • 8-pin base standard models. Add suffix D for 11-pin models • 8-pin is for single pole; 11-pin is for double pole • Base sold separately	• **Voltage:** 24, 115 or 240 VAC 12, 24 or 110 VDC • **Frequency:** 50-60 Hz • **Power consumption:** 2 watts maximum • **Output:** 8-pin = SPDT 11-pin = DPDT • **Relay:** 10 amps resistive at 240 VAC 1/6 HP @ 115 VAC 1/3 HP @ 240 VAC • **Dimensions:** 4" x 2.5" x 1.75"	• **Mars:** 32350, 32351, 32352
	**ACS-8, ACS-11 Relay Sockets** • Relay socket • 8-pin octal plug-in base • Locating key ensures proper orientation • Order **ACS-11** for 11-pin base • For use with ICM408, ICM410-427, ICM431, ICM432, ICM500-505	• 10 amps up to 480 VAC	• **Diversified:** RB-08

Series 500 Ordering Information

ICM Series	Input Voltage	Output Type	Description
ICM500	**24 VAC**	Single Pole, 1 FORM C 8-pin	Control operating modes: • DOM, DOB, interval, single shot, DOM/DOB and repeat cycle Time delay adjustment: • Switch-settable delays from 1-1,023 seconds/minutes in multiples of .1, 1, 10 and 100 Plug-in bases are to be ordered separately • Specify 8-pin or 11-pin* 8-pin = ACS-8 11-pin = ACS-11
ICM501	**115 VAC**		
ICM502	**240 VAC**		
ICM503	**12 VDC**		
ICM504	**24 VDC**		
ICM505	**110 VDC**		

***Note:** For 11-pin base model, double pole, 2 FORM C- add suffix D Example: ICM501D = 115 VAC, 11 pin

Freeze Protection Modules

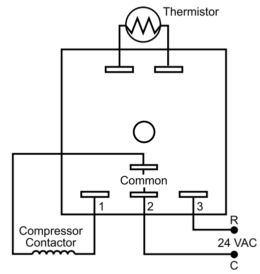
APPLICATIONS

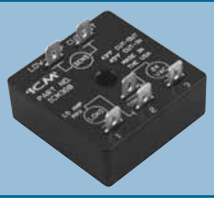
The ICM308/309/310 are low cost, fixed, single setpoint temperature controls that provide freeze protection.

ORDERING INFORMATION

Part #	Temperature Cut-Out (OFF)	Temperature Cut-In (ON)
ICM308	43°F	45°F
ICM309	28°F	55°F
ICM310	44°F	48°F

WIRING DIAGRAM



ICM Control	Features and Applications	Specifications	Replaces
	**ICM308/309/310** • Low cost, fixed, single setpoint temperature controls that provide freeze protection • Small compact package • Epoxy encapsulated for moisture protection • Temperature sensor included	• **Input:** • **Voltage:** 18-30 VAC • **Frequency:** 50-60 Hz • **Output:** • Solid state (triac) • 1.5 amps @ 30 VAC • **Dimensions:** • 2" X 2" X 1 1/4"	N/A

Low Ambient Cutoff Switch

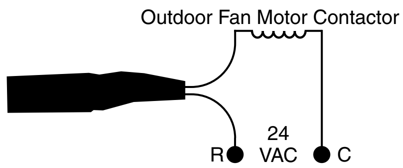
APPLICATIONS

The ICM **SC045** and **SC055** are low cost, easy to install, single setpoint temperature sensors that can be used as low ambient cutoff switches for condensor fan motors.

MODE OF OPERATION

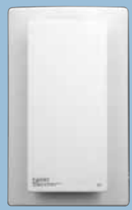
The ICM **SC045** and **SC055** can be used as a low ambient cutoff switches for a condensor fan motor. When the ambient temperature drops to 45°F/55°F, the **SC045** or **SC055** will open the fan signal and turn the fan motor off. It will not allow the fan to turn back on until the temperature rises above 45°F-55°F.

WIRING DIAGRAM



ICM Control	Features and Applications	Specifications	Replaces
	**SC045** • Cutoff setpoint 45°F • 2-wire installation	• **Input:** 18-30 VAC • **Output:** 2 amp maximum • **Temp. control range:** • 45°F (±9°F)	N/A
	**SC055** • Cutoff setpoint 55°F • 2-wire installation	• **Input:** 18-30 VAC • **Output:** 2 amp maximum • **Temp. control range:** • 55°F (±9°F)	N/A

Fixed Setpoint Thermostat

ICM Control	Features and Applications	Specifications	Replaces
	**FS40 Frost Sentry™** • Easy 2-wire installation • Fixed setpoint at 40°F • Special foam backing improves accuracy; helps eliminate "wall effect" • Compatible with most standard electric heating units. • Ideal for storage areas, garages, workshops and crawl spaces	• **Input:** 18-30 VAC • **Output:** 2 amp maximum • **Temp. control range:** • 40°F (±5°F)	N/A

Compressor Protection Module

APPLICATION

The ICM221 is a low cost compressor protection module that monitors safety switch inputs and provides anti-short cycle protection.

MODE OF OPERATION

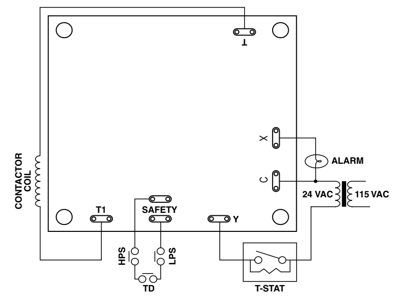
Upon a Y call from the thermostat, the compressor contactor is energized (T) after the selected delay on make time, given all safety switches are closed and the unit is not in the anti-short cycle period.

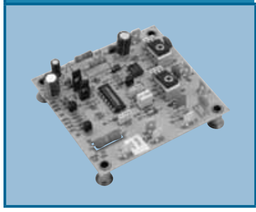
If a safety switch opens for longer than the 1-second interrogation, the compressor contactor is de-energized and the selected anti-short cycle time begins.

If three consecutive safety faults occur in a 90-minute period, the control will lock the compressor out and energize the alarm terminal (X). A lockout condition can only be reset by a loss of the Y signal from the thermostat.

Custom controls available. Consult factory for low pressure switch bypass, status LED and other custom options.

TIMING DIAGRAM



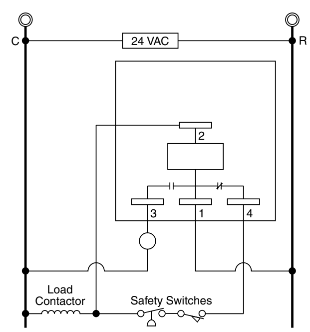
ICM Control	Features and Applications	Specifications	Replaces
	**ICM221** • Low cost compressor protection module • Anti-short cycle/lockout control • Safety switch monitoring (1-second interrogation) • Alarm output during lockout • 5-minute or 10-second ASC • 3- or 6-second DOM • Conformal coating for moisture protection	• **Voltage:** 18-30 VAC • **Frequency:** 50-60 Hz • **Solid state (triac)** • **1 amp @ 30 VAC** • **Dimensions:** 3.25"L x 3"W x 1"H • **Delay on make time:** 3- or 6-seconds (selectable) • **Anti-short cycle time:** 10-seconds or 5-minutes (selectable)	N/A

Lockout Protection

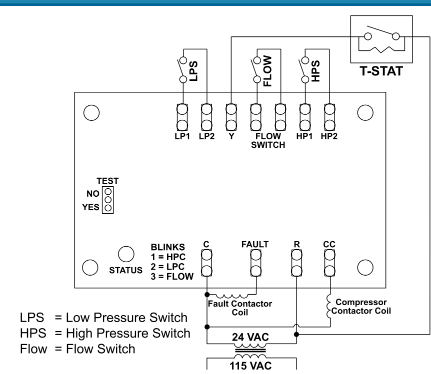
APPLICATION

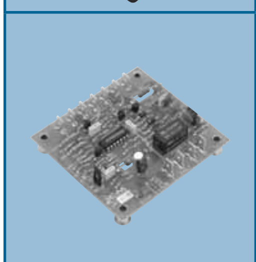
ICM offers low cost lockout protection modules that monitor various switch inputs to help protect your compressor.

WIRING DIAGRAM - ICM220



WIRING DIAGRAM - ICM222

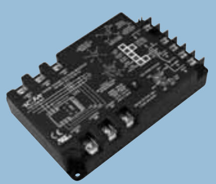


ICM Control	Features and Applications	Specifications	Replaces
	**ICM220** • UL 873 recognition as compressor controller • Low cost lockout relay • Helps eliminate nuisance lockouts typical of Series 84 and 93 impedance relays • Ideal for use with safety/interlock switches • Replaces impedance relays Series 84 and 93	• **Voltage:** 18-30 VAC • **Frequency:** 50-60 Hz • **Power consumption:** 2 watts maximum @ lockout • **Relay:** 1 form C • **Contacts:** 2 amps @ 30 VAC resistive • **Dimensions:** 2" x 2"	• **Essex:** Impedance Relays Series 84 and 93
	**ICM222** • Low cost lockout protection module • Anti-short cycle/lockout control • Pressure/flow switch monitoring • Alarm output during lockout • 5-minute ASC delay (5-second test mode) • LED fault codes for lockout status • Test mode for reduced test time • Conformal coating for moisture protection	• **Voltage:** 18-30 VAC • **Frequency:** 50-60 Hz • **CC** • **Type:** Solid state (Triac) • **Rating:** 1 amp @ 30 VAC • **Fault** • **Type:** Relay (SPDT) N.O. • **Rating:** 1 amp @ 30 VAC • **Anti-short cycle time:** 5-minutes fixed ±20% (5-second test mode) • **Dimensions:** 3.5" x 3.25" x 1"	N/A

ICM's line voltage monitors continuously monitor incoming line voltage to provide superior motor protection from premature failure and damage due to voltage unbalance, high and low voltages, phase loss, phase reversal, faulty power, incorrect sequencing and/or rapid short cycling. Some models include LED indicators or LCD diagnostic displays to indicate the current system condition. Single phase surge protectors help protect your system against lightning, power surges and voltage surges.

3-PHASE LINE VOLTAGE MONITORS • Full Performance

ICM's full performance line voltage monitors offer complete system protection by monitoring both the line (front) and load (back) side of the system including the power, motor and contactor lines. In addition, an integral "delay on break timer" guards against rapid short cycling at both the control circuit and the 3-phase lines. Provides highly reliable protection for your valuable equipment.

ICM Control	Features and Applications	Specifications	Replaces
	**ICM400** • Lower cost, full performance version featuring bright LED indicators to display system faults • Monitors "front" and "back" sides of system • Universal voltage operation: 190-630 VAC • Knob-adjustable features and system set points • Reset mode: choice of auto or manual (lockout) • Built-in anti-short cycle protection • Protects against voltage unbalance, high/low voltage, phase loss, reversal, faulty power, incorrect sequencing and rapid short cycling	• **Voltage:** 190-630 VAC • **Frequency:** 50-60 Hz • **Voltage unbalance:** Adjustable: 2-25% • **Control:** 18-240 VAC • **Delay on break timer:** .1-5 minutes • **Output:** • **Relay:** SPDT • **N.O.:** 10 amps • **N.C.:** 6 amps • **Dimensions:** 6.5" x 4.25" x 1.5"	• **A-1:** EAC-800, EAC-8000, EAC-8002 • **Diversified:** AC-2020, AC-301, AC 302 • **Mars:** 32512, 32515, 32516, 32517 • **Motorsaver:** 455 • **SSAC:** QLM/QLV • **Time Mark:** 265 • **Wagner/DiversiTech:** DTP-3, WPC-800
	**ICM450 (ICM450S for Spanish)** • Fully programmable with LCD diagnostic display • Easy to configure - simple push button setup • Easy to customize - set points, variables and features are fully adjustable and may be defined by the user while in control SETUP mode • 25-fault memory storage, non-volatile • Independent high and low voltage settings ideal for dual voltage compressor applications • Identifies front and back side faults • Reset mode: choice of auto or manual • Protects against: voltage unbalance, high/low voltage, phase loss, reversal, faulty power, incorrect sequencing and rapid short cycling • Reliable, high temperature LCD to 167˚F • Simultaneous voltage display, no scrolling • Line voltage programmable • Universal voltage operation: 190-630 VAC	• **Voltage:** 190-630 VAC • **Frequency:** 50-60 Hz • **Voltage unbalance:** Adjustable: 2-25% • **Control:** 18-240 VAC (optional) • **Delay on break timer:** 0-10 minutes • **Output:** • **Relay:** SPDT • **N.O.:** 10 amps • **N.C.:** 6 amps • **Dimensions:** 6.5" x 4.25" x 1.5"	• **A-1:** EAC-800 EAC-8000 EAC-8002 • **Copeland:** 085-0160-00 • **Diversified:** AC-2020 AC-301 AC-302 • **Mars:** PFM-2000 • **Motorsaver:** 455 • **SSAC:** QLM, QLV • **TimeMark:** 265 • **Wagner/DiversiTech:** DTP-3, WPC-800
	**ICM455** • Fully programmable with LED backlit diagnostic display • Simple 7-step push-button setup • Monitors "front" and "back" sides of system • Universal voltage operation: 190-600 VAC • 100-fault memory and storage with Real-Time Clock for accurate fault timestamps • Backup supply reliably records brownout conditions for up to 4 hours • Built-in anti-short cycle protection • Protects against voltage unbalance, high/low voltage, phase loss, reversal, faulty power, incorrect sequencing and rapid short cycling	• **Voltage:** 190-600 VAC • **Frequency:** 50-60 Hz • **Voltage unbalance:** Adjustable: 2-20% • **Fault interrogation:** Adjustable: 0-15 sec • **Over/under voltage:** Adjustable: 2-25% • **Reset modes:** AUTO or 0-10 retries • **Control mode:** ON or OFF • **Control:** 18-240 VAC • **Delay on break timer:** 0-10 minutes • **Output:** • **Relay:** SPDT • **N.O.:** 10 amps • **N.C.:** 6 amps • **Dimensions:** 5.5" x 4.5" x 1.5"	• **A-1:** EAC-800, EAC-8000, EAC-8002 • **Copeland:** 085-0160-00 • **Diversified:** AC-2020 AC-301 AC 302 • **Mars:** PFM-2000 • **Motorsaver:** 455 • **SSAC:** QLM/QLV • **Time Mark:** 265 • **Wagner/DiversiTech:** DTP-3, WPC-800

Phase Loss and Reversal Protection • Ultra Low Cost

ICM Control	Features and Applications	Specifications	Replaces
	**ICM401** • Low cost 3-phase protection for single side • Monitors for phase reversal, phase loss, unbalance % as a function of input voltage • Bright LED indicators for ON and FAULT • Universal 3-phase input: 190-600 VAC • Highly reliable passive electronics • Epoxy coated for added protection • Patented: U.S. Patent No. 5,337,206 • For open-board model order **ICM403**	• **Voltage:** 190-600 VAC • **Frequency:** 50-60 Hz • **Control:** 18-30 VAC • **Output:** • **Relay:** SPST • **N.O.:** 10 amps • **Dimensions:** 3.25" x 3" x 1.25"	• **Supco:** TPMP2 • **Mars:** 32536
	**ICM402** • Low cost 3-phase protection for single side • Monitors for phase reversal, phase loss, unbalance % as a function of input voltage • Bright LED indicators for ON and FAULT • Universal 3-phase input: 190-600 VAC • Highly reliable passive electronics • Epoxy coated for added protection • Patented: U.S. Patent No. 5,337,206 • For open board model order **ICM404**	• **Voltage:** 190-600 VAC • **Frequency:** 50-60 Hz • **Control:** 115 or 208/240 VAC • **Output:** • **Relay:** SPST • **N.O.:** 30 amps • **Dimensions:** 3.25" x 3" x 1.25"	• **Supco:** TPMP2 • **Mars:** 32536

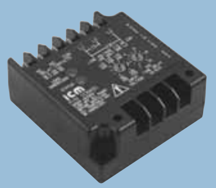
Phase Loss and Reversal Protection • Ultra Low Cost (continued)

ICM Control	Features and Applications	Specifications	Replaces
	**ICM408** • Reliable 3-phase protection for single side • Monitors for phase reversal, phase loss, unbalance % and high/low voltage • Bright LED indicators for ON and FAULT • High/low voltage cut-out: • High voltage cut-out setpoint: +12% • Low voltage cut-out setpoint: -12% • Highly reliable passive electronics • Power/phase loss detection: within 100 ms • User selectable unbalance voltage: 2 to 8% • Phase reversal detection: detects on power up • User selectable delay on make: .1 to 5 minutes • 8-pin plug-in mount (base sold separately)	• **Voltage:** 190-480 VAC • **Frequency:** 50-60 Hz • **Adjustable DOB:** .1-5 minutes • **Adjustable DOM:** .1-5 minutes • **Heavy duty SPDT** • **Relay output:** • **N.O./N.C. contacts:** 10 amps resistive @ 250 VAC • **Dimensions:** 4" x 2.5" x 1.75"	• **Mars:** 32532, 32534, 32540, 32541, 32542
	**ICM409** • Reliable 3-phase protection for single side • Monitors for phase reversal, phase loss, unbalance % and high/low voltage • Bright LED indicators for ON and FAULT • High/low voltage cut-out: • High voltage cut-out setpoint: +12% • Low voltage cut-out setpoint: -12% • Highly reliable passive electronics • Power/phase loss detection: within 100 ms • User selectable unbalance voltage: 2 to 8% • Phase reversal detection: detects on power up • User selectable delay on make: .1 to 5 minutes • DIN rail mount	• **Voltage:** 190-480 VAC • **Frequency:** 50-60 Hz • **Adjustable DOB:** .1-5 minutes • **Adjustable DOM:** Heavy duty SPDT • **Relay output:** • **N.O./N.C. contacts:** 10 amps resistive @ 250 VAC • **Dimensions:** 4.25" x 3.5" x 2.375"	N/A
	**ICM431** • Low cost 3-phase protection for single side • Monitors for phase reversal, phase loss, unbalance % as a function of input voltage • Bright LED indicators for ON and FAULT • Universal 3-phase input: 190-600 VAC • Control voltage: 18-30 VAC • Highly reliable passive electronics • Patented: U.S. Patent No. 5,337,206 • 8-pin plug-in mount (base sold separately)	• **Voltage:** 190-600 VAC • **Frequency:** 50-60 Hz • **Control:** 18-30 VAC • **Output:** • **Relay:** SPST • **N.O.:** 10 amps • **Dimensions:** 4" x 2.5" x 1.75"	N/A
	**ICM432** • Low cost 3-phase protection for single side • Monitors for phase reversal, phase loss, unbalance % as a function of input voltage • Bright LED indicators for ON and FAULT • Universal 3-phase input: 190-600 VAC • Control voltage input: 115, 208, 240 VAC • Highly reliable passive electronics • Epoxy coated for added protection • Patented: U.S. Patent No. 5,337,206 • 8-pin plug-in mount (base sold separately)	• **Voltage:** 190-600 VAC • **Frequency:** 50-60 Hz • **Control:** 115 or 208/240 VAC • **Output:** • **Relay:** SPST • **N.O.:** 20 amps • **Dimensions:** 4" x 2.5" x 1.75"	N/A
	**ICM461** • Low cost 3-phase protection for single side • Monitors for phase reversal, phase loss, unbalance % as a function of input voltage • Bright LED indicators for ON and FAULT • Universal 3-phase input: 190-600 VAC • Control voltage: 18-30 VAC • Highly reliable passive electronics • Patented: U.S. Patent No. 5,337,206 • DIN rail mount	• **Voltage:** 190-600 VAC • **Frequency:** 50-60 Hz • **Control:** 18-30 VAC • **Output:** • **Relay:** SPST • **N.O.:** 10 amps • **Dimensions:** 3.75" x 2" x 3.2"	N/A
	**ICM462** • Low cost 3-phase protection for single side • Monitors for phase reversal, phase loss, unbalance % as a function of input voltage • Bright LED indicators for ON and FAULT • Universal 3-phase input: 190-600 VAC • Control voltage: 115, 208, 240 VAC • Highly reliable passive electronics • Patented: U.S. Patent No. 5,337,206 • DIN rail mount	• **Voltage:** 190-600 VAC • **Frequency:** 50-60 Hz • **Control:** 115 or 208/240 VAC • **Output:** • **Relay:** SPST • **N.O.:** 30 amps • **Dimensions:** 3.75" x 2" x 3.2"	N/A
	**ACS-8/ACS-11 Relay Sockets** • Relay socket • 8-pin octal plug-in base • Locating key ensures proper orientation • Order ACS-11 for 11-pin base • For use with: **ICM408, ICM431, ICM432, ICM500-505** • Rated for 480 VAC	• **10 amps up to 480 VAC**	• **Diversified:** RB-08

3-Phase Temperature Monitor

ICM Control	Features and Applications	Specifications	Replaces
	**ICM441** **Protects Against:** • Under voltage • Power interruptions • Shorted temperature sensor • Open temperature sensor • Control duty, SPST relay layout • Anti-short cycle time delay, 4 minutes (nominal) • 1-second manual bypass • Over temperature • Rapid short cycling	• **Voltage:** 120 or 208/240 VAC • **Frequency:** 50-60 Hz • **Output:** • **Relay:** SPST • **N.O.:** 6 amps resistive • **Dimensions:** 3.25" x 3" x 1.25"	• **Bristol:** 241680 • **Copeland:** 071-0376-01, 071-0376-02 071-0397-00, 071-0397-01, 071-0424-00, 071-0424-01, 071-9800-00, 071-9800-01 • **Mars:** 37300, 37302. 37304, 37306, 37322 • **Texas Instruments:** 15AA1600 B, 15AA1600 C 15AA1603 B, 15AA1603 C 31AA1600 E, 31AA1606 E

Single Phase Motor Protection

ICM Control	Features and Applications	Specifications	Replaces
	**ICM491** • Low cost single phase motor protection • Built in anti-short cycle protection • Detects high/low voltage conditions • Helps prevent rapid system recycling • LED indicators: • Green for normal conditions • Red for fault • Heavy duty SPDT, isolated relay output • Interrogation delay prevents nuisance trips: 5 seconds	• **Voltage:** 95-270 VAC • **Output:** • **Relay:** SPDT • **N.C./N.O.:** 5 amps • **Time delay range:** Adjustable 6-600 seconds • **Dimensions:** 3.25" x 3" x 1.25"	• **A-1:** EAC-401, EAC-402 EAC-403, EAC-404 • **Diversified:** CV-100-RS CV-200-RS15 CV-200-RS20 • **Wagner/DiversiTech:** DSP-1
	**ICM492** • Protects against over and under voltage, and rapid short cycling caused by transient faults and power interruptions • Easy-view, backlit digital display • RMS voltage monitoring • Adjustable voltage set point • Adjustable over voltage setting • Adjustable under voltage setting • Adjustable anti-short cycle time delay • Adjustable response time • Control mode • 5-fault memory • Universal line voltage input • Heavy duty SPDT relay output • Universal control voltage input (for integrating a thermostat)	**User adjustable settings:** • **Voltage set point:** 80-300 VAC • **Anti-short cycle time delay:** 0-720 sec. • **Over voltage setting:** 5-25% • **Under voltage setting:** 5-25% • **Control mode:** On and Off • **Response time:** 0.1-10 seconds **Inputs:** • **Line voltage:** 80-300 VAC • **Frequency:** 50-60 Hz • **Accuracy:** ±2% • **Low power consumption:** • Maximum 50 mA @ 120V • Maximum 100 mA @ 240V • **Control voltage:** 24-240 VAC **Output:** • **Type:** Dry relay contacts • **Form:** SPDT • **Relay contact ratings:** • **N.C. contacts:** 10A resistive @ 277 VAC • **N.O. contacts:** 10A resistive @ 277 VAC **Mechanical:** • **Case dimensions:** 3"L x 3.2"W x 1.35"H	• **Wagner/DiversiTech:** DSP-1
	**ICM493** • Protects against over and under voltage, rapid short cycling caused by transients, and high-power surges • Easy to view, backlit digital display • Bank of five L-L Surge Arresters • Built-in 40A Contactor • NEMA-Rated 3R enclosure for outdoor use • Easy installation and setup • Ideal for Mini-Splits or other condensing units	**User Adjustable Settings:** • **Voltage Setpoint:** 207-253 VAC • **Anti-short cycle delay:** 0-10 Minutes • **# of Surge Arresters required for operation:** 0-5 • **Number of Retries:** 0-5, Auto **Inputs:** • **Line Voltage:** 200-300 VAC • **Frequency:** 50-60 Hz • **Accuracy:** +/- 2%, User Calibration **Output:** • **Type:** Contactor • 2-Pole • **Contactor Ratings:** 40A FLA, 240A LRA **Mechanical:** 3R Outdoor Enclosure, 8"L x 8"W x 4"H	N/A
	**ICM515** • Easy installation • Low cost, high performance • Great for mini splits • Weatherproof housing • Rugged, reliable • Protects against: • Lightning power surges • Voltage surges from A/C, generators, motors	• **Service voltage:** 120-240 VAC, single phase • **Maximum surge current:** 24,000 amps • **Maximum energy dissipation:** 240 Joules • **Installation point:** • Electrical panel • Electrical disconnect • **AC protection modes:** Line-line, line-ground • **Dimensions:** 1.75" x 1.62" x 0.75"	• **Ditek:** DTK-120-240CM • **Supco:** SCM
	**ICM516** • Type 2 surge protective device • UL Listed • Easy installation • Low cost, high performance • Rugged, reliable • Protects against: • Lightning power surges • Voltage surges from A/C, generators, motors • Limited Lifetime Protection Warranty	• **Service voltage:** 120-240 VAC, single phase • **Maximum surge current:** 100,000 amps • **Maximum energy dissipation:** 1,020 Joules • **Installation point:** • Electrical panel • Electrical disconnect • **AC protection modes:** Line-line, line-ground • **Dimensions:** 2.75" x 4.75" x 1.75"	• **Supco:** SCM Plus, SCM150

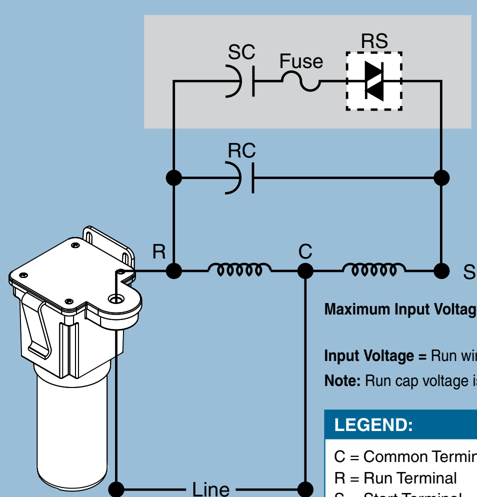
ICM803, ICM805 and ICM810 • The Current Advantage

“EXTENDS THE LIFE OF YOUR COMPRESSOR”

By monitoring the compressor current upon start-up, RapidStart® is able to engage the hard start capacitor for precisely the correct amount of time, ensuring maximum starting torque without the risk of supplying too much current into the start winding. A timed safety circuit is provided in the event the motor fails to start within 2 seconds. Current sensing hard start precisely increases starting torque.

ICM Control	Features and Applications	Specifications	Replaces
	**ICM803** • Operates from 95-288 VAC • Patented current sensing circuitry • Easy to install, 2 wires • OEM approved • Solid-state circuitry • Boosts starting torque • Disengages upon start • Recycles instantly (less than 1 second) • Fuse protection • Not affected by voltage or current fluctuations • Not affected by ambient temperatures	• **Voltage:** 95-288 VAC • **Maximum input voltage:** 502 VAC • **Operating temperature range:** -40˚C to +65˚C • **Capacitor:** 88-106 Mfd. 330 V • **Range:** 1/12 to 3 HP applications	• **5-2-1:** CSR-V1 • **Kickstart:** T05, KS8 • **Supco:** SPP-8, SPP-8E
	**ICM805** • Operates from 95-288 VAC • Patented current sensing circuitry • Easy to install, 2 wires • OEM approved • Solid-state circuitry • Boosts starting torque • Disengages upon start • Recycles instantly (less than 1 second) • Fuse protection • Not affected by voltage or current fluctuations • Not affected by ambient temperatures	• **Voltage:** 95-288 VAC • **Maximum input voltage:** 502 VAC • **Operating temperature range:** -40˚C to +65˚C • **Capacitor:** 145-175 Mfd. 330 V • **Range:** 1/12 to 5 HP applications	• **5-2-1:** CSR-U1, CSR-U2, CSR-U3 • **Kickstart:** KS1 • **Supco:** SPP-8, SPP-8E
	**ICM810** • Operates from 95-288 VAC • Patented current sensing circuitry • Easy to install, 2 wires • OEM approved • Solid-state circuitry • Boosts starting torque • Disengages upon start • Recycles instantly (less than 1 second) • Fuse protection • Not affected by voltage or current fluctuations • Not affected by ambient temperatures	• **Voltage:** 95-288 VAC • **Maximum input voltage:** 502 VAC • **Operating temperature range:** -40˚C to +65˚C • **Capacitor:** 243-292 Mfd. 330 V • **Range:** 3 1/2 to 10 HP applications	N/A

Typical Wiring Diagram



Maximum Input Voltage = 502 VAC RMS (maximum run cap volts)

Input Voltage = Run winding volts + start winding volts

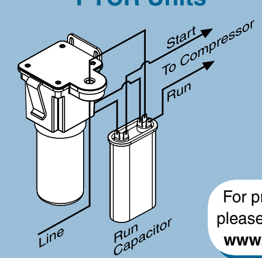
Note: Run cap voltage is higher than line voltage

LEGEND:

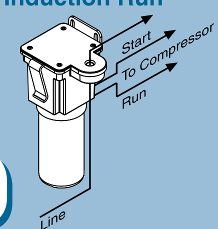
C = Common Terminal	RC = Run Capacitor
R = Run Terminal	RS = Rapid Start
S = Start Terminal	SC = Start Capacitor

Assorted Configurations

PTCR Units

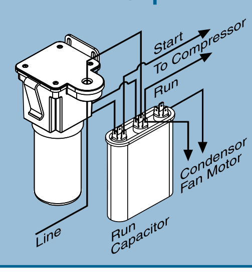


Capacitor Start Induction Run

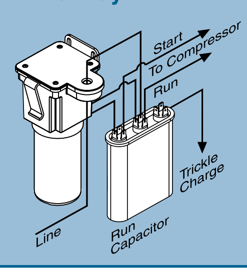


For product dimensions, please visit our website at **www.icmcontrols.com**

Double Capacitor



Off Cycle Heat

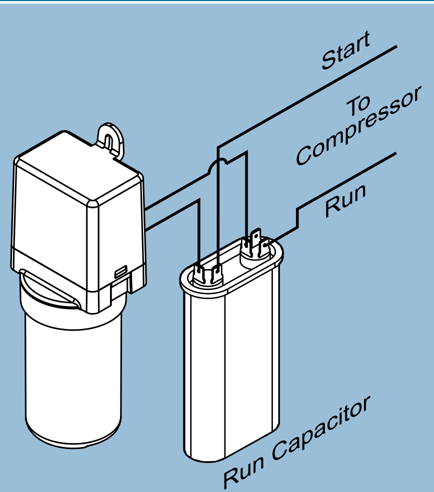


ICM860 and ICM866 • Voltage Sensing

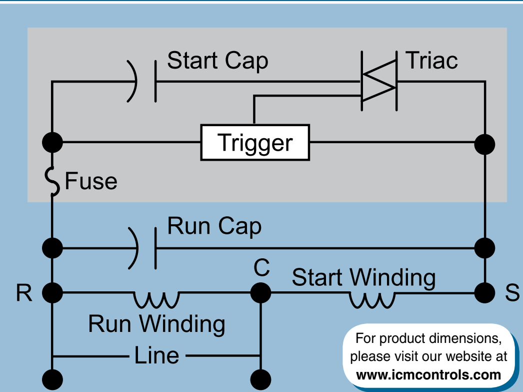
ICM's differential voltage sensing products employ patented circuitry which monitors differential compressor auxiliary voltage, determines the state of the motor and precisely engages and disengages the start capacitor. A timed safety circuit is provided in the event the motor fails to start within 2 seconds.

ICM Controls	Features and Applications	Specifications	Replaces
	**ICM860** • Increases starting torque up to 500% • Ensures precise starts • Reduces inventory • Not affected by ambient temperature • Recycles Instantly (less than one second) • Dual voltage operation: either 115 or 240 VAC motors • Fuse protection • Not affected by voltage or current fluctuations	• **Voltage:** 90-277 VAC • **Maximum input voltage:** 390 VAC • **Operating temperature range:** -40˚C to +65˚C • **Capacitor:** 88-106 Mfd. 330 V • **Range:** 1/12 to 5 HP applications* * *Recommended range is 1/2 to 3 HP applications.*	• **Supco:** SPP-5E SPP-6E
	**ICM866** • **Patented circuitry with differential voltage sensing technology** • Monitors differential compressor auxiliary voltage • Precisely engages/disengages the start capacitor • Not affected by ambient temperatures • Recycles instantly • **Self-adjusting to changes in voltages** • Does not rely on relay with pre-set, factory default ranges • Eliminates guesswork in "tweener" applications • Extends motor life • **Rated for 1/12 to 5HP applications** • Reduces inventory, saves money • One model is all you need • **Simple, two-wire installation** • Faster install time • Minimizes risk of accidental miswires • **Multi-voltage operation • 115 or 230 VAC motors** • **145-175 µF @ 330V** • **UL Recognized**	• **Voltage:** 90-240 VAC • **Recommended range:** 1/12 to 5 HP • **Capacitor:** 145-175 Mfd. 330V	• **Supco:** SPP5, SPP6, SPP5E, SPP6E, SPP7E, SPP8E, SPP9E, SPP10E • **Kickstart:** KS1, TO-5, KS8 • **5-2-1:** CSR-U1, CSR-U2, CSR-U3 • **Watsco:** WSX1 • **Mars:** 32708, SS1, SS5, 32703, 32704, 32701, 32702 • **Diversitech:** DST-5, DST-6

Wiring Diagram



System Diagram



Maximum Input Voltage = 390 VAC RMS (maximum run cap volts)
Input Voltage = Run winding volts + start winding volts
Note: Run cap volts is higher than line voltage

ICM855 and ICM856 • PTCR Hard Start Capacitors

ICM Controls	Features and Applications	Specifications	Replaces
	**ICM855** • Increases torque up to 300% • Positive Temperature Coefficient (PTC) technology • Easy to install • Low cost motor starting device	• **Voltage:** 115-288 VAC • **Capacitor:** 43-52 Mfd, 330 V • **Range:** 1/2 to 10 HP (up to 1 1/2 HP recommended)	• **A-1:** WXS-5 • **MARS:** 32701 35701 • **Supco:** SPP-5 • **Wagner/DiversiTech:** DST-5
	**ICM856** • Increases torque up to 500% • Positive Temperature Coefficient (PTC) technology • Easy to install • Low cost motor starting device	• **Voltage:** 115-288 VAC • **Capacitor:** 88-106 Mfd, 330 V • **Range:** 1/2 to 10 HP (2-5 HP recommended)	• **A-1:** WXS-6 • **MARS:** 32702 35702 • **Supco:** SPP-6 • **Wagner/DiversiTech:** DST-6

ICM857, ICM858 and ICM859 • Relay, Overload and Start Capacitors

ICM Controls	Features and Applications	Specifications	Replaces
	**ICM857** • For single-phase commercial and domestic capillary refrigeration systems and freezers • Pre-wired for fast installation • Overload: 12A • 145-175 mfd • For 1/12 to 1/5 HP motors	• **Operating Voltage:** 120V • **Maximum Voltage:** 180V • **Maximum Current:** 12A • **Retry Time:** Within 90 seconds	• **Mars:** 32481 • **Supco:** RCO810
	**ICM858** • For single-phase commercial and domestic capillary refrigeration systems and freezers • Pre-wired for fast installation • Overload: 22A • 243-292 mfd • For 1/4 to 1/3 HP motors	• **Operating Voltage:** 120V • **Maximum Voltage:** 180V • **Maximum Current:** 12A • **Retry Time:** Within 90 seconds	• **Mars:** 32741 • **Supco:** RCO410
	**ICM859** • For single-phase commercial and domestic capillary refrigeration systems and freezers • Pre-wired for fast installation • Overload: 30A • 243-292 mfd • For 1/3 to 1/2 HP motors	• **Operating Voltage:** 120V • **Maximum Voltage:** 180V • **Maximum Current:** 12A • **Retry Time:** Within 90 seconds	• **Supco:** RCO210

RapidStart® "Current Sensing" Comparison	HARD START			SOFT START	
	Differential Current Relay	Potential Relay		PTCR Devices	Timing Devices
	ICM RAPIDSTART®	KICKSTART	Conventional 3-Wire Relay & Capacitor Kit	GEMLINE HS600 & HS650 MARS 32701 & 32702 ROBERTSHAW 600-052 & 600-057 SUPCO SPP5, SPP6, SPP7 WATSCO WSX-5, WSX-6	SUPCO SPP8 WATSCO WSX-1
Self Adjusting	YES	NO	NO	NO	NO
Uses Current Differential Technology	YES	NO	NO	NO	NO
Uses Potential Motor Start Relay	Not Required	YES	YES	NO	NO
Two Wires, Non-Polarized	YES	YES	NO	YES	YES
Recycles Instantly	YES	YES	YES	NO	NO
Senses Whether Motor Started or Not	YES	YES	YES	NO	NO
Replaces 3-Wire Relay and Capacitor Kit	YES	YES	YES	NO	NO
UL Recognized #E11867	YES	YES	YES	NO	NO
Timing Circuit Device	NO	NO	NO	YES	YES
Safety Cut-Off	YES	NO	NO	NO	NO
Affected by Ambient Temperature	NO	NO	NO	YES	YES
Factory Calibration	Not Required	YES	YES	YES	YES
Voltage Sensitive	NO	NO	NO	YES	NO
PTCR Device	NO	NO	NO	YES	YES
Fuse Protected	YES	NO	NO	NO	NO

RapidStart® "Voltage Sensing" Comparison	HARD START			SOFT START	
	Differential Voltage Relay	Potential Relay		PTCR Devices	Timing Devices
	ICM RAPIDSTART®	KICKSTART	Conventional 3-Wire Relay & Capacitor Kit	GEMLINE HS600 and HS650 MARS 32701 and 32702 ROBERTSHAW 600-052 and 600-057 SUPCO SPP5, SPP6 and SPP7 WATSCO WSX-5 and WSX-6	SUPCO SPP5 SPP6 WATSCO WSX-1
Self Adjusting	YES	NO	NO	NO	NO
Uses Differential Voltage Technology	YES	NO	NO	NO	NO
Uses Potential Motor Start Relay	Built-in w/ ICM866U Not required on ICM860	YES	YES	NO	NO
Two Wires, Non-Polarized	YES	YES	NO	YES	YES
Recycles Instantly	YES	YES	YES	NO	NO
Senses Whether Motor Started or Not	YES	YES	YES	NO	NO
Replaces 3-Wire Relay and Capacitor Kit	YES	YES	YES	NO	NO
UL Recognized #E11867	YES	YES	NO	NO	NO
Approved by Compressor Manufacturers	YES	YES	YES	NO	NO
Approved by Equipment Manufacturers	YES	YES	YES	NO	NO
Used by OEM Manufacturers	YES	NO	NO	NO	NO
Safety Cut-Off	YES	NO	NO	NO	NO
True Power Factor Starting	Not Required	YES	YES	YES	YES
Factory Calibration	Not Required	YES	YES	YES	YES
Voltage Sensitive	NO	NO	NO	YES	NO
PTCR Device	NO	NO	NO	YES	YES
Timing Circuit Device	NO	NO	NO	YES	YES
Affected by Ambient Temperature	NO	NO	NO	YES	YES

Series UMSR

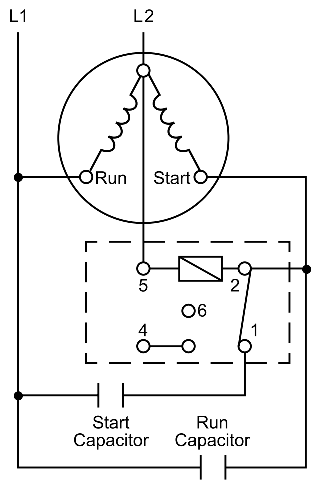
APPLICATIONS

ICM's Universal Motor Starting Relay incorporates patented differential voltage sensing and a non-positional mounting configuration to offer a single replacement for all standard potential relays.

Great way to reduce inventory. Ideal for A/C, commercial refrigeration, heat pump or any single-phase motor application up to 10 HP.

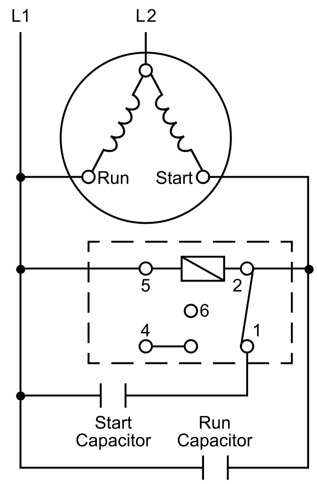
WIRING DIAGRAM

Standard Wiring Diagram



Terminal 4 = Common Park Terminal
Terminal 6 = Common Park Terminal

Alternative Reduced Arcing Configuration



Terminal 4 = Common Park Terminal
Terminal 6 = Common Park Terminal

ICM Control	Features and Applications	Specifications	Replaces
 DD 2007 DEALER DESIGN AWARDS the NEWS | BRONZE	**UMSR-50** • Replacement for all standard potential relays • Patented differential voltage sensing • No user-adjustments required • Non-positional mounting configuration • 50A switching capabilities • Universal mounting bracket for easy installation • .250" quick connect termination • Safety timer *Also available with 30A switching capabilities (UMSR-30)*	**General:** • **Input:** • **Voltage Rating:** 110-270 VAC, Single Phase • **Maximum Voltage Contact Rating:** 502 VAC (absolute) • **Motor power rating:** Up to 10 HP • **Operating Position:** Non-positional • **Safety Time Out:** Approximately 1-second per 100 microfarads • **Consumption:** 5VA max. • **Insulation:** Class B (130°C); Conforms to IEC 1000- standards (6kV impulse / 6kV contact) • **Life Expectancy (minimum operations):** • **Mechanical:** 1 x 10^6 • **Electrical:** 1 x 10^6 at 16A 400 VAC 5 x 10^5 at 35A 400 VAC (break only) 5 x 10^5 at 50A 400 VAC (break only) **Contacts:** • **Contact rating:** 50A (break only), 400 VAC cos Ø = 0.7 to 0.8	• All standard potential relays • **Supco:** APR5 SUPR

Comfort Control Center

Applications

The award-winning CC750 Comfort Control Center works with your existing single-phase A/C or Heat Pump to more effectively remove moisture from the air. Provides enhanced comfort and improved indoor air quality with greater system efficiencies. Generates warmer air discharge temps for winter months in heat pump applications.

Converts an inverter or standard grade PSC or shaded pole motor to a variable speed motor. Simple, menu driven programming gives the installer the ability to fine-tune key parameters that establish a latent and sensible cooling ratio best suited for the unique conditions of each installation. Also provides warmer air discharge temperatures for heat pumps during winter months.

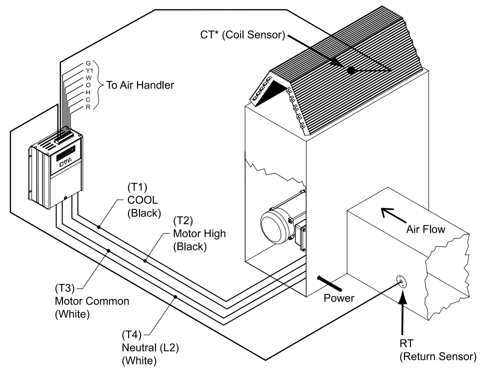
2006 DEALER DESIGN AWARDS theNEWS SILVER

COMFORTECH Product Showcase Awards

Mode of Operation

A variable frequency/variable voltage fan motor speed control, the CC750 varies the blower speed based on the evaporator and return air temperature. A field adjustable temperature differential between the evaporator and the return air duct is maintained by controlling blower speed. A simple to use, menu driven program lets the installer establish a latent and sensible cooling ratio to best meet the specific environmental conditions unique to each install.

Wiring Diagram



ICM Control



Features and Applications

ICM CC750
- Converts an inverter or standard grade PSC or shaded pole motor to a variable speed motor
- Field programmable
- Varies the air flow based on delta T
- Mounts in or out of air handler
- Motor lubrication algorithm
- Inverter bypass
- Over-current protection
- Standard thermostat interface
- Available in 115 VAC (CC750-115) and 230 VAC (CC750-230)
- Replaces: N/A

Specifications

Ratings
- **Nominal 24 VAC inputs (±25%):** 18-30 VAC RMS absolute
- **Power consumption:** 10 watts typical

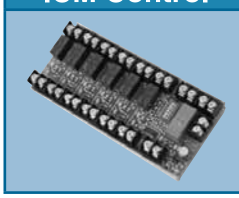
Line Ratings: Nominal, 115 VAC RMS
- **Inverter operation:** 95-135 VAC RMS absolute
- **Bypass operation:** 85-145 VAC RMS absolute
- **Maximum inverter amps:** 10 amps RMS
- **Maximum bypass amps:** 20 amps (60 Hz)

Line Ratings: Nominal 208-230 VAC RMS
- **Inverter operation:** 180-264 VAC RMS absolute
- **Bypass operation:** 170-264 VAC RMS absolute
- **Maximum inverter amps:** 8.5 amps RMS
- **Maximum bypass amps:** 10 amps (60 Hz)

Fan Safety Alarm

Fan Safety Alarm

ICM Control



Features and Applications

ICM6100
- Fan safety alarm circuit
- Outputs provided ensure that a DDC controller can determine the root cause of a shutdown.
- Dip switch to bypass inputs not in use.
- Ideal for Air Handling Unit safety-shutdown.
- 2.75" mounting track provided

Specifications

Input: 24 VAC; 50-60 Hz (4A max)

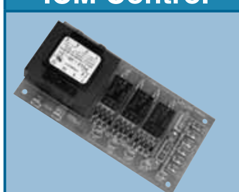
Output
- **Relay outputs (6):** 2A @ 24 VAC/DC per output
- **Master relay 24 VAC (2):** 1.5A @ 24 VAC per output
- **Master relay dry contacts:** 10A @ 250 VAC
- **Alarm status:** ***Green LED ON*** = Activated
  Red LED **ON** = Not Activated

Replaces: Functional Devices: RIBMNLB-6

Fan Coil Relay Control Boards

Fan Coil Relay Controls

ICM Control



Features and Applications

ICM6200
- Ability to operate line voltage 3-speed fan motor with low voltage controls
- Compatible with 4-pipe, 2 pipe, HP, auto-changeover
- 20 VA 24 VAC power supply
- Suitable for 1/8 HP motors
- 1/4" Quick connect terminals
- Mounts with standard 3" track

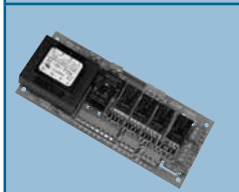
Specifications

Input
- **Transformer Primary:** 115 VAC; 50-60 Hz
- **Fan Inputs HI, MED, LOW:** nominal 17mA @ 24 VAC
- **Heat & Cool:** 1.5A @ 24 VAC

Output
- **Transformer Secondary:** 24 VAC; 20 VA
- **Relay outputs H, M, L:** 1/8HP @ 115 VAC,
  10A @ 240 VAC resistive max.
- **Heat & Cool Valves:** 1.5A @ 24 VAC

Replaces: Honeywell W6380B, BSR/Xactone FC/H-2

ICM Control



Features and Applications

ICM6201
- Ability to operate line voltage 3-speed fan motor with low voltage controls
- Ability to operate line voltage electric heating element with low voltage controls
- Compatible with 4-pipe, 2 pipe, aquastat autochangeover, and heat pump
- 20 VA 24 VAC power supply
- Suitable for 1/8 HP motors
- Screw terminal receptacles
- Mounts with standard 3" track

Specifications

Input
- **Transformer Primary (L1 & L2):** 115 VAC; 50-60 Hz
- **HI, MED, LOW (8, 7, 6):** Nominal 17 mA @ 24 VAC
- **Inputs 1, 2, 3, 4, 5, Aqua Heat & Cool:** 1.5A @ 24 VAC

Output
- **Transformer Secondary:** 24 VAC; 20 VA
- **Relay Outputs H, M, L:** 1/8 HP @ 115 VAC,
  10A @ 240 VAC resistive
- **HTR Output:** 30A @ 240 VAC resistive
- **Heat & Cool Valves:** 1.5A @ 24 VAC

Replaces: Honeywell W6380B, BSR/Xactone FC/H-1

Fan Blower • Off Delay on Break

APPLICATIONS

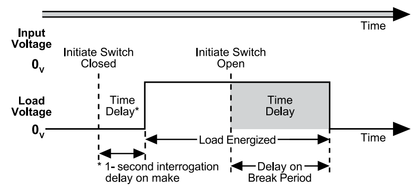
"OFF delay on break"

Controls the circulating fan in heat pump, air conditioning and forced air systems. OFF delay timing function continues to run the fan at the end of the heating/cooling cycle, thereby purging ducts of residual air and increasing system efficiency.

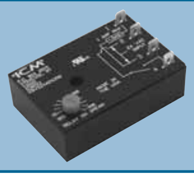
MODE OF OPERATION

Power must be applied before and during the time delay period. When the initiate contact closes, the load energizes and remains energized as long as the initiate contact is closed. The time delay begins when the initiate contact opens. At the end of the time delay period, the load is turned off. If the initiate contact recloses during the time delay period the load remains energized and the time delay is reset to zero. Removal of input power during the delay turns off the load and resets the time delay to zero. A one-second interrogation delay is provided to avoid nuisance trips due to thermostat bounce or tampering.

TIMING DIAGRAM



OFF Delay Timing Purges Residual Air

ICM Control	Features and Applications	Specifications	Replaces
	**ICM253** • UL 873 recognition for compressor applications • Post-purge fan delay timer • OFF delay purges ducts of residual air at the end of the heating/cooling cycle • Interrogation delay eliminates nuisance trips due to thermostat bounce/tampering	• **Voltage:** 18-30 VAC • 1 amp maximum • 40 mA minimum • 10 amp inrush • **Adjustable time delay:** • 12-390 seconds • **Dimensions:** 2" x 3"	• **Field Controls:** 46144700 • **Gemline:** 1C216 • **Mars:** 32393

Fan Blower • Dual On/Off

APPLICATIONS

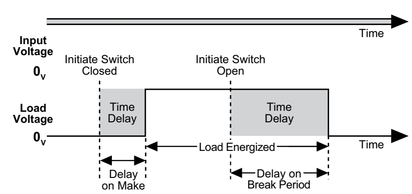
"ON delay on make" and "OFF delay on break"

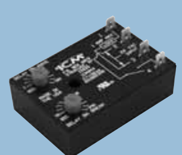
Controls the circulating fan in heat pump, air conditioning and forced air systems. Delay on make lets air reach proper level prior to turning on the fan. OFF delay timing function continues to run the fan at the end of the heating/cooling cycle, thereby purging ducts of residual air and increasing system efficiency.

MODE OF OPERATION

Power must be applied before and during the time delay period. When the initiate contact closes, the delay on make period begins. The load then energizes and remains energized as long as the initiate contact is closed. The delay on break period begins when the initiate contact opens. At the end of the time delay, the load is turned off. If the initiate contact recloses during the time delay, the load remains energized and the time delay is reset to zero. Removal of input power during the delay turns off the load and resets the time delay to zero.

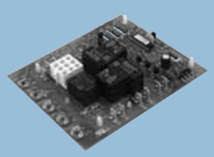
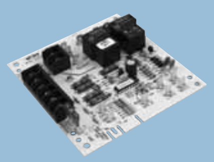
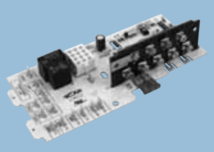
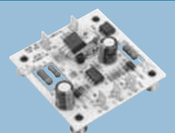
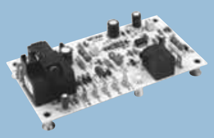
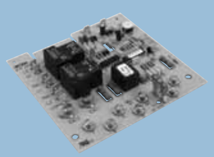
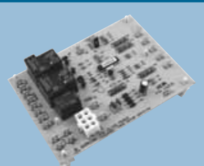
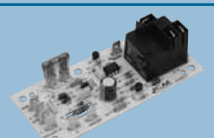
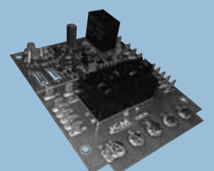
TIMING DIAGRAM



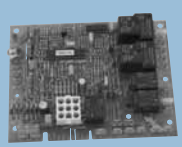
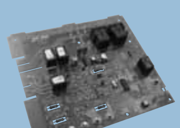
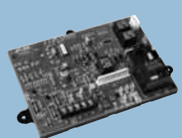
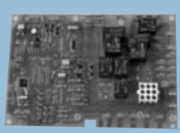
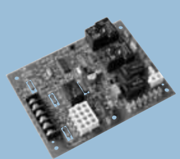
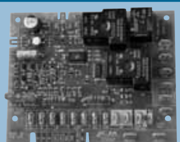
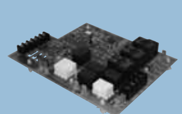
ICM Control	Features and Applications	Specifications	Replaces
	**ICM251** • Drives fan directly • High power, relay output • Dual function fan delay timer • Controls the circulating fan in heat pump, A/C and forced air systems • OFF delay controls fan relay to purge ducts of residual air at the end of the heating/cooling cycle • ON delay allows air to reach the proper comfort level prior to energizing the fan • 115 and 230 VAC are also available, please consult factory (HBVR series)	• **Voltage:** 18-30 VAC • **Output:** • **N.O.:** 20 amps @ 240 VAC • **N.C.:** 10 amps @ 240 VAC • **Time delays adjustable:** • **ON:** 1-180 seconds • **OFF:** 12-390 seconds • **Dimensions:** 2" x 3"	• **Mars:** 32377 32378 32379
	**ICM254** • Dual function fan delay timer • Controls the circulating fan in heat pump, A/C and forced air systems • OFF delay controls fan relay to purge ducts of residual air at the end of the heating/cooling cycle • ON delay allows air to reach the proper comfort level prior to energizing the fan	• **Voltage:** 18-30 VAC • 1 amp maximum • 40 mA minimum • 10 amp inrush • **Time delays adjustable:** • **ON:** 1-180 seconds • **OFF:** 12-390 seconds • **Dimensions:** 2" x 3"	• **Honeywell:** S876A1016 • **Watsco:** PSTD-000-005W PSTD-000-060W
	**ICM255** • Low cost open board design • High power, relay output • Dual function fan delay timer • Controls the circulating fan in heat pump, A/C and forced air systems • OFF delay purges ducts of residual air • ON delay allows air to reach the proper comfort level prior to energizing the fan	• **Voltage:** 18-30 VAC • **N.O.:** 20 amps @ 240 VAC • **N.C.:** 20 amps @ 240 VAC • **Time delays fixed:** • **ON:** 1 second • **OFF:** 60 seconds • **Dimensions:** 2.5" x 2.5"	• **A-1:** 5893 • **Bard:** 8201-056 • **Mars:** 32574 • **Rheem:** 42-22515-01 42-22515-02 42-22515-03 • **Snyder General/ ICP:** 1395336

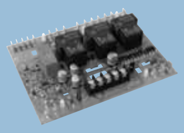
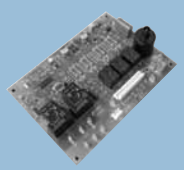
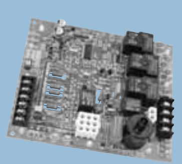
ICM offers low cost, form, fit and functional replacement fan blower controls for many popular OEM models. Our fan blower controls monitor safety switches, provide on and off delays and control the speed of the fan in heat pumps, and in air conditioning and forced air systems according to the logic of the original board.

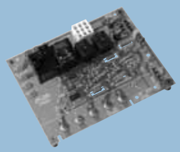
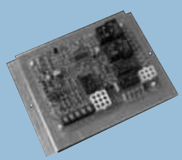
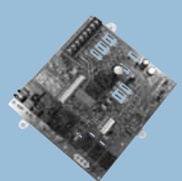
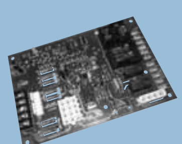
Form, Fit and Functional OEM Replacement Parts

ICM Control	Features and Applications	Specifications	Replaces
	**ICM270** • Dual function fan delay timer • Controls the circulating fan in heat pump, A/C and forced air systems • OFF delay purges ducts of residual air • ON delay allows air to reach the proper comfort level prior to energizing the fan	• **Voltage:** 18-30 VAC • **Contact ratings:** Heat/cool speed • **N.O.:** 20 amps @ 240 VAC • **N.C.:** 10 amps @ 240 VAC • **Time delays:** • **Blower ON delay:** 30 seconds • **Blower OFF delay:** 90, 120, 150, 180 seconds	• **Evcon:** 2702-300 • **Rheem:** 47-22827-01 47-22827-81/82/83 47-22828-01/02 • **Robertshaw:** 695-003
	**ICM271** • Reliable solid state fan blower control • Specifically designed to replace popular gas furnace centers • Pin selectable blower delays • High power, relay output • Dual function fan delay timer • Controls the circulating fan in HP, A/C and forced air systems • OFF delay purges ducts of residual air • ON delay allows air to reach the proper comfort level prior to energizing the fan	• **Voltage:** 18-30 VAC • **Contact ratings:** • **N.O.:** 20 amps • **N.C.:** 10 amps • **Time delays:** • **Heat ON delay:** 75 seconds • **Heat OFF delay:** 105 seconds • **Cool OFF delay:** 90 seconds	• **Carrier:** 302075-3 CES0110017 CES0110018 HH84AA010 HH84AA011 HH84AA012 HH84AA013/020 P771-7002 • **Robertshaw:** 695-100
	**ICM272** • Cooling control module with fan delay • Integral low voltage terminal board with field thermostat wiring • Electronic air cleaner output • High power, relay output • DC output for fan relays and 1st stage of electric heater control • Interlock circuitry prevents 2nd & 3rd stage electric heat energization without proper fan operation	• **Voltage:** 18-30 VAC • **Contact ratings:** • **N.O.:** 20 amps • **N.C.:** 10 amps • **Time delay:** • **Blower OFF delay:** 60 seconds	• **Carrier:** HK61GA001 HK61GA003 • **Texas Instruments:** 2FD-1
	**ICM273** • Solid state output • Silent operation, "no clicking" • Controls the circulating fan in HP, A/C and forced air systems • OFF delay purges ducts of residual air	• **Voltage:** 18-30 VAC • **Output:** 2 amps @ 240 VAC • **Time delay:** • **Blower OFF delay:** 60 seconds	• **EMI:** 240000-969
	**ICM274** • Microprocessor-based fan blower control • Built in humidity relay • Manually adjustable post-purge off delay from 60-240 seconds • Electronic air cleaner output	• **Voltage:** 18-30 VAC • **Outputs:** • **Y out:** 1.5 amps • **Fan:** 2 amps • **Elec. heat relay:** 30 amps @ 240 VAC • **Time delay:** • **Blower OFF delay:** 60 seconds	• **EMI:** 240-1764
	**ICM275** • Heavy duty heat relay • Purges ducts of residual air • Integral short cycle protection	• **Voltage:** 18-30 VAC • **Contact ratings:** • **High:** 20 amps @ 240 VAC • **Low:** 10 amps @ 240 VAC • **Time delays:** • **Heat ON delay:** 60 seconds • **Heat OFF delay:** 60-240 seconds • **Cool OFF delay:** 90 seconds	• **Carrier:** CES0110019, HH84AA001, HH84AA003 HH84AA005 HH84AA009 HH84AA014 HH84AA015 HH84AA021 • **Robertshaw:** 695-101
	**ICM276** • Microprocessor-based fan blower • Inducer fan outputs • Controls the circulation fan in gas/heat and A/C systems • OFF delay purges ducts of residual air	• **Voltage:** 18-30 VAC • **Outputs:** • **Fan:** 20 amps @ 240 VAC • **Inducer fan:** 2 amps • **Time delays:** • **Heat ON delay:** 60 seconds • **Heat OFF delay:** 120, 150, 180 seconds • **Cool OFF delay:** 60 seconds	• **Carrier:** HK51GA003 • **Rheem:** 47-23619-02 47-23619-03 • **Robertshaw:** 457-23619-03 RS100-833-02
	**ICM277** • Microprocessor-based fan blower • For circulating fan in heat pump, A/C and forced air systems	• **Voltage:** 18-30 VAC • **Contact ratings:** • **N.O.:** 20 amps • **N.C.:** 10 amps • **Time delays:** • **Blower ON:** 7 seconds • **Blower OFF:** 65 seconds	• **Goodman:** B1370735S PCBFM131S
	**ICM278** • Controls blower motor and inducer • Combines functionality of two boards into one • Microprocessor-based precision • Adjustable blower off delay • Compatible with 24 VAC standard thermostats	• **Input Voltage** • **120/240 VAC:** N1-N5, S1-S5, H, L, L1, D1 • **18-30 VAC:** Y, G, W, C, R, W2, X, HL, PS1, PS2 • **Line Frequency:** 60 Hz • **Operating Temperature**: -40ºF to +176ºF • **Maximum Operating Humidity**: 95% R.H. non-condensing @ 50ºC • **Time Delays** • Heat **ON** 60 Seconds • Heat **OFF** 60-200 Seconds • Cool **OFF** 40 Seconds	• **Carrier:** HH84AA017 and HH84AA018 (replaces both boards together)

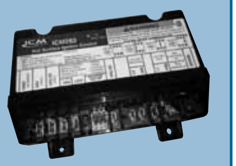
ICM offers low cost, form, fit and functional replacement furnace controls for many popular OEM models. Our furnace controls come standard with many safety features including 100% gas shutoff in case of ignition failure.

ICM Control	Features and Applications	Specifications	Replaces
	**ICM280** • Microprocessor-based fan blower • Inducer fan outputs • Hot surface ignitor output • Flame sensor input • Gas valve output • Status LED for fault codes • Twinning compatible with another **ICM280** board	• **Voltage:** Line (98-132 VAC) @ 60 Hz • **Fan:** 2 HP @ 240 VAC • **Inducer motor:** 7 amps @ 250 VAC • **Gas valve:** 1 amps @ 24 VAC • **Ignitor:** 5 amps @ 120 VAC	• **Goodman:** B1809906 B1809908, B1809910 B1809913, B1809913S • **UTEC:** 1012-933D • **Texas Instruments:** 41F-5 • **White-Rodgers:** 50T35-730, 50T35-743
	**ICM281** • Control gas valve, ignitor, blower motor, inducer, humidifier and air cleaner • Microprocessor-based • Designed for 100% gas shutoff in case of ignition failure • Model selection of 80+ and 90+ furnace operation • Reverse polarity protection • Secondary brownout voltage protection • Heating and cooling fan functions in response to standard thermostat • Provides diagnostic LEDs to aid in troubleshooting • Twinning compatible with another **ICM281** board	• **Voltage:** Line (98-132 VAC) @ 60 Hz • **Operating temperature:** -40°F to 176°F -40°C to 75°C • **Ignitor:** 5A @ 120 VAC • **Cool blower:** 30A, 2HP, 240 VAC • **Heat:** 5A, 1/2 HP, 240 VAC • **Inducer motor:** 4A, FLA-8.0 LRA @ 120 VAC • **Gas valve:** 1.5A @ 30 VAC	• **Carrier:** CES0110020 CES0110048 CES0110057-00 CES0110057-01 CES0110057-02 HH84A016
	**ICM282A** • Control gas valve, ignitor, blower motor, inducer, humidifier and air cleaner • Microprocessor-based • Designed for 100% gas shutoff in case of ignition failure • Reverse polarity protection • Secondary brownout voltage protection • Heating and cooling fan functions in response to standard thermostat • Provides diagnostic LEDs to aid in troubleshooting • Includes adapter harness (not shown) • Twinning compatible with another **ICM282A** board	• **Voltage:** Line (98-132 VAC) @ 60 Hz • **Operating temperature:** -40°F to 176°F -40°C to 75°C • **Ignitor:** 5A @ 120 VAC • **Cool blower:** 30A, 2HP, 240 VAC • **Heat:** 5A, 1/2 HP, 240 VAC • **Inducer motor:** 4A, FLA-8.0 LRA @ 120 VAC • **Gas valve:** 1.5A @ 30 VAC	• **Carrier:** HK42FZ004, HK42FZ007 HK42FZ008 HK42FZ009 HK42FZ011 HK42FZ013 HK42FZ016 HK42FZ034 325878-751
	**ICM284** • Microprocessor based • Controls vent motor, blower control, hot surface ignitor and gas valve • Monitors timing, trial for ignition, flame sensing and lockout • Diagnostic LEDs to aid in testing/troubleshooting	• **Line voltage:** 208 VAC @ 60 Hz • **Ignitor:** 5A resistive @ 208 VAC • **Heat blower:** 10A, .5 HP, 250VAC • **Cool blower:** 30A, 2HP, 240 VAC • **Inducer Motor:** 4A, 120 VAC • **Gas Valve:** 4A @ 24 VAC • **Compressor:** 5A resistive @ 24 VAC	• **York:** SI-03101280000
	**ICM286** • Microprocessor-based precision • Controls inducer and blower fan motors, hot surface ignitor, and gas valve • Monitors timing, trial for ignition, flame sensing, pressure and limit switches, and lockout • Designed for 100% gas shutoff in case of ignition failure • Reverse polarity protection • Twinning compatible with another ICM286 control board • Compatible with LP or natural gas • Diagnostic LED to aid in testing/troubleshooting	• **Trial for Ignition:** 7 seconds • **Pre-purge Time:** 15 seconds • **Ignitor Warm Up Time:** 7 seconds • **Post-Purge Time:** 15 seconds • **Total Trials for Ignition:** 3 (auto reset after 1 hour) • **Heat Blower On:** 30 seconds • **Heat Blower Off:** Selectable 90/120/150/180 seconds • **Fan (Heat) On/Off Delay:** 1 second • **Cool On:** 5 seconds • **Cool Off:** 45 seconds	• **Goodman:** PCBBF112S, B18099-26S, 0130F00005S
	**ICM287** • Microprocessor based • Controls inducer and blower control, • Monitors timing and gas valve	• **Line voltage:** 120 VAC @ 60 Hz • **Control voltage:** 24 VAC @ 60 Hz • **Heat blower:** 10A, 120 VAC • **Cool blower:** 30A, 120 VAC • **Inducer blower:** 30A, 120 VAC	• **Goodman:** B18099-04
	**ICM288** • Microprocessor-based precision • Monitors pressure, roll-out and limit switches • Controls gas valve, inducer draft motor, circulating blower and hot surface ignitor. • Reverse polarity detection • Twinning compatible with another ICM288 board • Diagnostic LEDs to aid in testing/troubleshooting	• **Voltage Range:** Line (98-132 VAC) @ 60Hz • **Ignitor:** 5A, 120 VAC • **Cool Blower:** 10A, 2HP, 240 VAC • **Heat:** 5A, ½ HP, 250 VAC • **Inducer Blower:** 4A, 120 VAC • **Gas Valve:** 1A, 24 VAC • **Humidifier Motor:** 0.5A, 24 VAC • **Electronic Air Cleaner:** 1A, 120 VAC	• **Rheem:** 62-24084-82

ICM Control	Features and Applications	Specifications	Replaces
	**ICM289** • Controls inducer fan motor, blower fan and monitors limit switches • Microprocessor based design • Functions with all 24 VAC thermostats	• **Voltage Range:** Line (98-132 VAC) @ 60 Hz • **Cool blower:** 20A @ 120 VAC • **Heat blower:** 20A @ 120 VAC • **Inducer motor:** 5A @ 120 VAC • **Cool blower On Delay:** 1 second • **Cool blower Off Delay:** 1 second • **Heat blower On Delay:** 45 seconds • **Heat blower Off Delay:** 90, 150, 210, 270 sec.	• **Lennox:** Replaces all BCC1, BCC2 and BCC3 circuit boards, including 48K98 and 45K48.
	**ICM291** • Direct Spark Ignition (DSI) control board • Microprocessor-based • Controls combustion, blower and indoor motors; spark ignitor and the gas valve • Monitors timing, trial for ignition, flame sensing and lockout • 100% lockout safety feature • Compatible with LP or Natural Gas • Status LED for fault codes to aid in troubleshooting	• **Control voltage:** 24 VAC (18-30 VAC), 60 Hz • **Line voltage:** 208/230 VAC, 60 Hz • **Power cons:** 0.3A plus gas valve current @ 24 VAC • **Operating temp:** -40°C (-40°F) to 75°C (176°F) **Timing** • **Pre-purge:** 45 seconds • **Trial for Ignition:** 5+2 seconds • **Retry period:** Every 20 seconds for 15 minutes • **Lockout:** manual reset • **Post-purge:** 45 seconds **Inputs** • **Power:** RT and C • **Thermostat interface:** R, W and G • **Safety switches:** RS, LS, and CS • **Combustion motor Hall Effect sensor** • **Flame sensing** **Outputs** • **Spark** • **Gas Valve:** GV • **Combustion motor:** CM • **Blower motor:** BM • **Indoor fan motor:** IFO **LED indicators** • **Red LED:** Steady ON- normal operation Flashing – fault codes	• **Carrier:** LH33WP003/3A
	**ICM292** • Direct Spark Ignition (DSI) control board • Microprocessor-based • Controls Induced Draft and indoor blower motors; humidifier output, spark ignitor and gas valve • Monitors timing, trial for ignition, flame sensing and lockout • 100% lockout safety feature • Compatible with LP or Natural Gas • Status LEDs for fault codes to aid in troubleshooting	• **Control voltage:** 24 VAC (18-30 VAC), 60 Hz • **Line voltage:** 115 VAC, 60 Hz • **Power cons:** 0.3A plus gas valve current at 24 VAC • **Operating temp:** -40°C (-40°F) to 75°C (176°F) **Timing** • **Pre-purge:** 30 seconds • **Trial for ignition:** 7 seconds • **Retries:** 2 groups of 2, 30 seconds delay within the group and 3 minutes delay between groups • **Lockout:** 1 hour • **Post-purge:** 90, 120, 160 and 180 seconds **Inputs** • **Power:** 24 VAC and COM • **Thermostat interface:** R, W, Y and G • **System switches:** Vent Pressure and Limit switches (Main and Over-temperature switches in series) • **Flame Sensing** • **Heat blower OFF delay:** SW1 toggle switch **Outputs** • **Spark:** SE • **Gas Valve:** GV • **Inducer draft motor:** IDM • **Electric Air Cleaner:** EAC • **Humidifier relay:** HUM • **Heat/Cool relay:** H/C • **Blower motor:** FAN, COOL and HEAT speeds **LED indicators** • **Power, green LED:** PWR • **Status, green LED:** OK • **Flame status, yellow LED:** FLAME	• **Rheem:** 62-24140-04
	**ICM2801** • Controls vent motor, blower control, hot surface ignitor and gas valve • Monitors timing, trial for ignition, flame sensing and lockout • Microprocessor-based • Reverse polarity protection • 100% lockout safety feature • Compatible with LP or Natural Gas • Twinning compatible with another **ICM2801** control • Status LED for fault codes to aid in troubleshooting	• **Line voltage:** 98-132 VAC @ 60 Hz • **Ignitor:** 5A, 120 VAC • **Cool blower:** 10A, 2 HP, 240 VAC • **Heat:** 5A, ½ HP, 250 VAC • **Inducer blower:** 4A, 120 VAC • **Gas valve:** 1A, 24 VAC	• **York/Evcon:** 7990-319P

ICM Control	Features and Applications	Specifications	Replaces
	**ICM2804** • Hot Surface Ignition (HSI) control board • Microprocessor-based • Controls vent motor and blower control • Monitors limit switch, pressure switch and gas valve • 100% lockout safety feature • Compatible with LP or Natural Gas • Status LED for fault codes to aid in troubleshooting	**ENVIRONMENT** • **Ambient Temperature** • **Operating:** -40ºF to 176ºF • **Storage:** -40ºF to 185ºF • **Humidity:** 5% to 95% R.H. (non-condensing) @ +55ºF • **Vibration:** 13.8Hz @ 0.2 Gs for one hour in each orthogonal axis **ELECTRICAL** • **Voltage Range:** Line (98-132 VAC) @ 60Hz • **Cool Blower:** 20A, 2 HP, 240 VAC • **Heat:** 10A, 240 VAC • **Inducer Motor:** 4A FLA, 8A LRA @ 120 VAC **TIMING** • **Inducer Pre-Purge Time:** 1 second • **Heat Blower On Delay:** 45 seconds • **Heat Blower Off Delays:** 120 or 180 seconds • **Cool Blower On Delay:** 1 seconds • **Cool Blower Off Delay:** 1 seconds	• **Carrier:** CES0110074-00 and CES0110074-01 **Note:** *This board functions identically as the CES0110074-00 and the CES0110074-01. It is a replacement of the CES0110074-01. When replacing the CES0110074-00 some quick connectors have to be changed or added. EAC-1 and EAC-2 must have 1/4" connectors. COM, SEC-1 and SEC-2 must have 3/16" connectors.*
	**ICM2805A** • Controls gas valve, inducer draft motor, circulating blower and hot surface ignitor • Monitors timing, trial for ignition, flame sensing, lockout, plus pressure, rollout and limit switches. • Microprocessor-based precision • Twinning compatible with another ICM2805 furnace control • Diagnostic LEDs aid in testing and troubleshooting	• **Voltage Range:** Line (98 to 132 VAC) @ 60Hz • **Ignitor:** 5A, 120 VAC • **Cool Blower:** 10A, 2HP, 240 VAC • **Heat:** 5A, ½ HP, 250 VAC • **Inducer Blower:** 4A, 120 VAC • **Gas Valve:** 1A, 24 VAC • **Humidifier Motor:** 0.5A, 24 VAC • **Electronic Air Cleaner:** 1A, 120 VA	• **Nordyne 903106-Kit** (for use with G3, G4, G5, G6, M2 and M3 furnace modules)
	**ICM2807** • Controls gas valve, ignitor, blower motor, inducer, humidifier and air cleaner • Microprocessor-based precision • Designed for 100% gas shutoff in case of ignition failure • Twinning compatible with another ICM2807 control • Reverse polarity protection • Secondary brownout voltage protection • Compatible with 24 VAC standard thermostat • Continuous Blower Speed Jumper • Limit Switch Lockout Time • Limit Switch Lockout After Power Interruption • Self-Diagnostics • Provides diagnostic LEDs to aid in troubleshooting	**ENVIRONMENT** • **Ambient Temperature** • Operating: -40°F to 176°F • Storage: -40°F to 185°F • **Humidity:** 5% to 95% R.H. (non-condensing) @ +55°F **ELECTRICAL** • **Voltage Range:** Line (98 to 132 VAC) @ 60Hz • **Ignitor:** 5A @ 120 VAC • **Cool Blower:** 10 HP, 120 VAC • **Low Heat:** 5A, 1/2 HP, 120 VAC • **High Heat:** 10A, 1 HP, 120 VAC • **Inducer Motor:** 4A, FLA-8.0 LRA @ 120 VAC • **Gas Valve:** 1.5A @ 30 VAC • **EAC:** 1A@120 VAC • **Humidifier:** 0.5A & 24 VAC	• **Carrier:** HK42FZ005, HK42FZ010, HK42FZ015, HK42FZ017, 325879-Kit
	**ICM2808** • Controls gas valve, Ignitor, blower motor, Inducer, humidifier, and air cleaner. • Microprocessor-based precision • Designed for 100% gas shutoff in case of ignition failure • Twinning compatible with another ICM2808 control • Reverse polarity protection • Secondary brownout voltage protection • Compatible with 24 VAC standard thermostat • Provides dual-color diagnostic LED to aid in troubleshooting	**ENVIRONMENT** • **Ambient Temperature** • Operating: -40°F to 176°F • Storage: -40°F to 185°F • **Humidity:** 5% to 95% R.H. (non-condensing) @ +55°F **ELECTRICAL** • **Voltage Range:** Line (98 to 132VAC) @ 60Hz • **Control Voltage Range:** 18-30VAC @ 60Hz • **Relay Outputs:** Meets or exceeds O.E.M. board **TIMING** • **Heat Blower On Delay:** 30 seconds • **Heat Blower Off Delay:** 90-180 seconds	• **York:** S1-331-03010000 and S1-331-02956000

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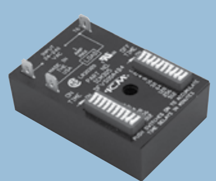
ICM Control	Features and Applications	Specifications	Replaces
	**ICM283** • Hot Surface Ignition (HSI) Module • Single/Dual rod sensing capabilities • For gas fired furnaces, boilers and other heating appliances • Switch selectable lockout times, ignition trials • Works with both Natural & LP gas systems • Diagnostic LED to aid in troubleshooting	• **Input voltage:** 120 & 24 VAC, 60 Hz • **HSI:** 120V, 5A maximum • **Valve:** 24V, 2A maximum • **Total:** 24V Load = 0.4 + valve load • **Pre-purge time:** 32 seconds • **Trial time:** 4 or 7 seconds (switch selectable) • **Ignition trials to lockout:** 1 or 3 (switch selectable) • **Flame sense:** Single rod or dual rod • **Gas type:** Natural or LP	• **Honeywell:** S8910U-1000 • **Robertshaw:** HS780 • **White Rodgers:** 50E47 50F47
	**ICM290A** • Universal intermittent pilot gas ignition control • Provides ignition sequence, flame monitoring and safety shutoff for single/dual rod intermittent pilot control applications • For gas fired furnaces, boilers and other heating appliances • Switch selectable pre-purge and ignition trial times with permanent lock • Works with or without vent damper connected • Works with both Natural & LP gas systems	• **Control voltage:** Line 24V (18-30 VAC), 50-60 Hz • **Anticipator setting:** 0.3A plus valve load @ 24 VAC • **Trial for ignition:** 15 or 90 seconds (switch selectable) • **LEDs:** • **Green status** LED provides system status and error codes • **Yellow flame** LED indicates flame presence & flame strength • **Operating temperatures:** Min. ambient temperature rating of -40°F (-40°C) and max. of 176°F (75°C) • **Relative humidity:** 0% to 95% non-condensing	• **Honeywell:** S8610U3009 (and compatible Camstat, Fenwal, HSC, Penn-Johnson, Robertshaw and White Rodgers models)
	**ICM295** • Spark Ignition Control Module • Microprocessor based • For use with intermittent pilot boilers, furnaces and other heating appliances • Continuous spark until pilot flame established • Push-on, high tension quick connect terminals • Compatible with LP or Natural Gas	• **Control Voltage:** Line 24 VAC (18-30 VAC) @ 50/60Hz • **Prepurge:** 0 or 10 seconds (system dependent) • **Retries:** Continuous • **Operating Temperature:** -40°F to 176°F -40°C to 75°C • **Relative Humidity:** 0% to 95% non-condensing • **Spark Frequency:** 15Hz for 90 seconds, 10Hz thereafter	• **Carrier:** LH33WZ510
	**ICM296** • Spark Ignition Control Module • Microprocessor based • For use with intermittent pilot boilers, furnaces and other heating appliances • 100% safety lockout • Compatible with LP or Natural Gas	• **Control Voltage:** Line 24 VAC (18-30 VAC) @ 50/60Hz • **Prepurge:** None • **Lockout:** 5-6 minutes • **Retries:** None • **Operating Temperature:** -40°F to 176°F (-40°C to 75°C) • **Relative Humidity:** 0% to 95% non-condensing • **Relay Contact Rating:** 1 amp @ 24 VAC • **Trail for Ignition:** 90 seconds • **Flame Failure Response Time:** 0.8 sec. max. • **Spark Frequency:** 60 Hz	• **Carrier:** LH33WZ512A
	**ICM2901** • For use with intermittent pilot boilers, furnaces and other heating appliances • Microprocessor-based precision • Monitors timing, trial for ignition, rollout switch, flame sensing and lockout • Remote flame sensing • 100% lockout safety feature • Compatible with LP or Natural Gas	• **Control Voltage:** Line 24 VAC (18-30 VAC) 50/60 Hz • **Anticipator Setting:** 0.3A plus valve load @ 24 VAC • **Prepurge:** None • **Trial for Ignition:** 85 seconds • **Flame Failure Response Time:** 0.5 seconds • **Retry:** None • **Relative Humidity:** 0% - 95% non-condensing • **Operating Temperature:** • Min. ambient temperature rating is -40°F (-40°C) • Max. ambient rating when used with 2.0A main valve is 160°F (71°C) • **Relative Humidity:** 0% to 95% non-condensing	• **ICM:** 294 • **Johnson Controls:** G770RJA-1 • **York:** 025-27762-700 and comparable ignition controls.
	**ICM2902** • For use with intermittent pilot boilers, furnaces and other heating appliances • Microprocessor-based precision • Monitors timing, trial for ignition, flame sensing and lockout • Remote flame sensing • 100% lockout safety feature • Compatible with LP or Natural Gas • Status LED for fault codes to aid in trblshooting	• **Control Voltage:** Line 24 VAC (18-30 VAC) 50/60 Hz • **Anticipator Setting:** 0.3A plus valve load @ 24 VAC • **Prepurge:** 15 seconds • **Trial for Ignition:** 60 mins. • **Lockout:** 2 seconds • **Flame Failure Response Time:** 0.5 seconds • **Status LED:** See product label for error codes • **Operating Temperature:** • Min. ambient temperature rating is -40°F (-40°C) • Max. ambient rating when used with 2.0A main valve is 160°F (71°C) • **Relative Humidity:** 0% to 95% non-condensing	• **ICM:** 293 • **Johnson Controls:** G776 (63K2401, 41K8701, 69J3601) ignition controls • **Lennox:** 30W33 ignition control, • **Robertshaw:** 735L (18G91) or 745 (95H04) ignit. controls

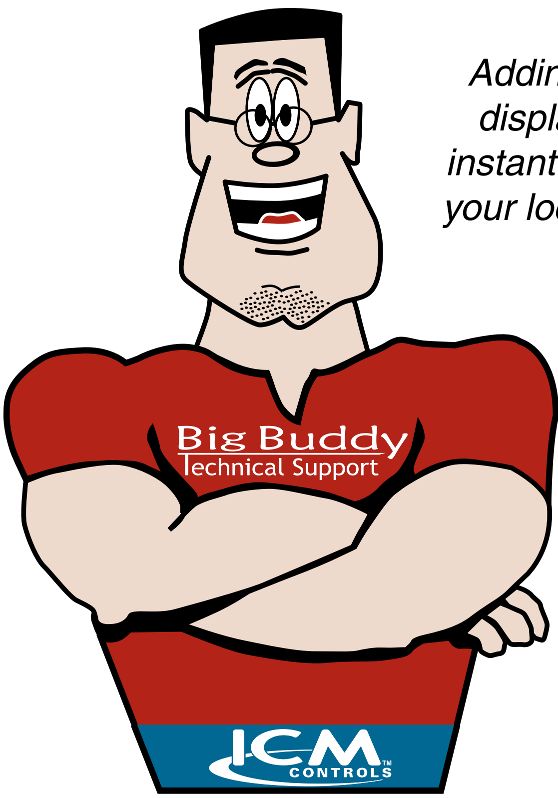
Intermittent Ignition

ICM Controls	Application		
	ICM's 1500 Series Intermittent Ignition Oil Primary Controls come standard with patented energy transfer technology that ensures the fuel valve and pump will only be energized if the control is functioning properly. Features a solid state flame sensing circuit, LED to indicate system lockout, an enclosed safety switch and an external reset button. Form, fit and functional replacement for popular competitive models.		
	Ordering Info	**Safety Timing**	**Replaces**
	ICM1501	15 seconds	**Honeywell:** R8184G4066, R8184G1161, R8184G1294
	ICM1502	30 seconds	**Honeywell:** R8184G4074, R8184G1179, R8184G1302, R8184G4033
	ICM1503	45 seconds	**Carlin:** 48245 **Honeywell:** R8184G4009, R8184G1138, R8184G1427, R8184G4025 **Tempstar/Heil:** 1147017 **White-Rodgers:** 668-401

Duty Cycle Timers

Duty Cycle Timers • Ideal for Defrost Applications

ICM Control	Features and Applications	Specifications	Replaces
	**ICM305 (minutes), ICM306 (seconds)** • Reliable duty cycle timer ideally suited for defrost applications • Suitable for process equipment or applications requiring intermittent delays • Switch-settable time delays • Digital timing accuracy • Reliable solid state output • Epoxy-encapsulated for greater reliability • On time starts at power up • SERIES: **ICM305:** Time delay in minutes **ICM306:** Time delay in seconds	• **Voltage:** 18-240 VAC • 1 amp • 10 amp inrush • **Time delay:** ICM305 • **Switch-settable from:** 1-1,023 minutes in 1-minute intervals • **Time delay:** ICM306 • **Switch-settable from:** 1-1,023 seconds in 1-second intervals • **Dimensions:** 2" x 3"	N/A

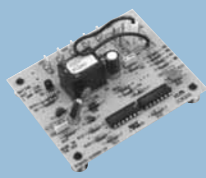
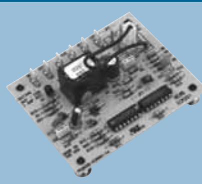
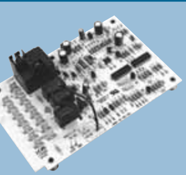
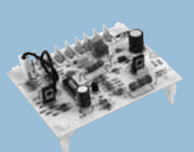
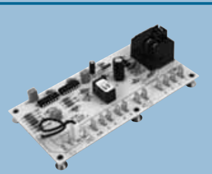


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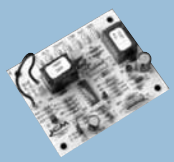
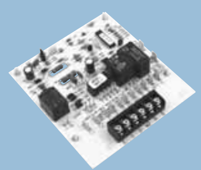
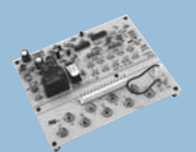
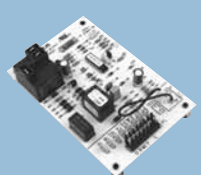
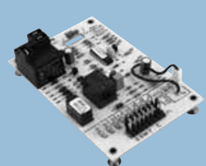
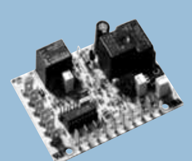
See **Page 54** for more details



Form, Fit and Functional OEM Replacement Parts

ICM Control	Features and Applications	Specifications	Replaces
	**ICM300** • Replacement for OEM Type 621 • Low cost, time and temperature defrost • HOLD input tracks compressor run times • Time and temperature terminate • 10-minute fixed defrost time • Pin-selectable intervals: 30/60/90 minutes • Test pins reduce test time by 256x • Stable pin post construction	• **Voltage:** 18-30 VAC • **Frequency:** 50-60 Hz • **Output:** • Relay, SPST • N.O.: 1 amp • **Defrost time:** 10-minute fixed • **Interval times:** Pin-Sel. 30/60/90 min.	• **Amana:** C64301-1, C64310-1 • **Arcoaire:** 32312-00, 3232140 • **Artesian:** 10321-00 • **Coleman:** 3030A374 • **Essex:** 621-1 to 621-11, 621-310 • **Goodman:** B12260-06 • **Heil Quaker:** HQ1052757 • **Honeywell:** ST74A1004, ST74A1020, ST74A1038 • **ICP:** 1052757 • **Intertherm:** 6208800 • **Lennox:** 33G9501 • **Rheem:** 47-21776-01 • **Robertshaw/Uni-Line:** TD-10, DT2-1000 • **Snyder General:** 1395-329 • **Steveco:** 90-621 • **Therm-O-Disc:** 26E-10 • **Weatherking (Addison):** 840-4-5548 • **White-Rodgers:** 90-621
	**ICM301** • Low cost, time and temperature defrost • Sensor input for defrost terminate • Time and temperature terminate • 10-minute fixed defrost time • Pin-selectable intervals: 30/60/90 minutes • Test pins reduce test time by 256x • HOLD input accumulates actual compressor run times	• **Voltage:** 18-30 VAC • **Frequency:** 50-60 Hz • **Output:** • **Type:** Relay, SPST • **N.O.:** 1 amp • **Defrost time:** 10-minute fixed • **Interval times:** Pin-Sel. 30/60/90 min.	• **Goettl:** 305007 • **ICM:** DFOSP24A2 • **Rheem:** 47-21776-06
	**ICM302** • Low cost, time and temperature defrost • Time and temperature terminate • 10-minute fixed defrost time • Pin-selectable intervals: 30/60/90 minutes • Test pins reduce test time by 256x • Strip heat, reversing valve outputs • High power output (1 HP fan @ 240 VAC) • Integral short cycle protection	• **Voltage:** 18-30 VAC • **Frequency:** 50-60 Hz • **Output:** • **Type:** Relay, SPST • **N.O.:** 1 amp • **Anti-short cycle time:** 5 minutes • **Defrost time:** 10-minute fixed • **Interval times:** Pin-Sel. 30/60/90 min.	• **ICM:** DFORB-AB1004 • **Nordyne:** 621301A 621579B 621579C 917178
	**ICM303** • Replacement for York 03101251000 • Time and temperature terminate • Integral short cycle protection • Pin-selectable intervals: 30/60/90 minutes • High/low pressure switch monitoring • High power, condenser relay output • Strip heat, reversing valve outputs	• **Voltage:** 18-30 VAC • **Frequency:** 50-60 Hz • **Relay output:** 1 HP fan @ 240 VAC • **Strip heat, reversing valve outputs:** • 24 VAC, 2 amps • **Defrost time:** 10-minute fixed • **Interval times:** Pin-Sel. 30/60/90 min.	• **Evcon:** 9218-374 • **ICM:** DFORF • **York:** 03101251000 9218-3741
	**ICM304** • Replacement for ICP 1069364 • Sensor input for defrost terminate • Time and temperature terminate • 10-minute fixed defrost time • Pin-selectable intervals: 30/60/90 minutes • Y input tracks compressor run times • Integral short cycle protection • Cool active reversing valve (See ICM323 for heat active model)	• **Voltage:** 18-30 VAC • **Frequency:** 50-60 Hz • **Strip heat, reversing valve outputs:** • 24 VAC, 1 amp • **Defrost time:** 10-minute fixed • **Interval times:** Pin-Sel. 30/60/90 min.	• **ICP:** 1069364
	**ICM307** • 3-minute anti-short cycle protection • Low cost, time and temperature defrost • Time and temperature terminate • 10-minute fixed defrost time • HOLD input tracks compressor run times • Pin-selectable intervals: 30/60/90 minutes • Test pins reduce test time by 256x	• **Voltage:** 18-30 VAC • **Frequency:** 50-60 Hz • **Output:** • **Type:** Relay, SPST • **N.O.:** 1 amp • **Anti-short cycle time:** 3 minutes • **Defrost time:** 10-minute fixed • **Interval times:** Pin-Sel. 30/60/90 min.	• **Fast:** 1093410 • **Lennox:** 86G16 • **Ranco:** DT2
	**ICM315** • Solid state replacement for Ranco E-15 • Reliable thermistor-type sensor is less susceptible to breakage, easier to mount • Replaces faulty bulb-type sensors • 10-minute fixed defrost time • Pin-Sel. interval times (30/45/90) • Test pins reduce test time by 256x • Stable pin post construction • Time and temperature terminate	• **Voltage:** 24, 120, 240 VAC • **Frequency:** 50-60 Hz • **Output:** • **Type:** Relay, SPDT • **N.O.:** 20 amps • **N.C.:** 10 amps • **Defrost time:** 10-minute fixed • **Interval times:** Pin-Sel. 30/45/90 min.	• **Avion:** DFT100 • **Ranco**: E-15
	**ICM316** • Replacement for Trane 21C142827G01 • Low cost, time and temperature defrost • Time and temperature terminate • Pin-selectable intervals: 50/70/90 minutes • Test pins reduce test time by 256x • High power output (1/2 HP fan @ 240 VAC) • Strip heat, reversing valve outputs (24 VAC, 1 amp)	• **Voltage:** 18-30 VAC • **Frequency:** 50-60 Hz • **Outdoor fan relay output:** • 1/2 HP fan @ 240 VAC • **Strip heat, reversing valve outputs:** • 24 VAC, 1 amp • **Defrost time:** 10-minute fixed • **Interval times:** Pin-Sel. 50/70/90 min.	• **Trane:** 21C142827G01 CNT1152 CNT1642

Form, Fit and Functional OEM Replacement Parts (continued)

ICM Control	Features and Applications	Specifications	Replaces
	**ICM317** • Anti-bang reversing valve feature • Select 0 or 3 minute anti-short cycle time • Time and temperature terminate • 10-minute fixed defrost time • Test pins reduce test time by 256x • HOLD input tracks compressor run times	• **Voltage:** 18-30 VAC • **Frequency:** 50-60 Hz • **Output:** • **Type:** Relay, SPST • **N.O.:** 1 amp • **Defrost time:** 10-minute fixed • **Interval times:** Pin-selectable 50/70/90 minutes	N/A
	**ICM318** • Replacement for Goodman B1226008 • Low cost, time and temperature defrost • Time and temperature terminate • Pin-selectable intervals: 30/60/80 minutes • Test pins reduce test time by 256x • HOLD input tracks compressor run times • High power output (1/2 HP fan @ 240 VAC) • Strip heat, reversing valve outputs (24 VAC, 1 amp)	• **Voltage:** 18-30 VAC • **Frequency:** 50-60 Hz • **Outdoor fan relay output:** • 1/2 HP fan @ 240 VAC • **Strip heat, reversing valve outputs:** • 24 VAC, 1 amp • **Defrost time:** 10-minute fixed • **Interval times:** Pin-selectable 30/60/80 minutes	• **Goodman:** B1226008 • **ICM:** W1001-4
	**ICM319** • Replacement for **Nordyne:** 624519A • Low cost, time and temperature defrost • Time and temperature terminate • 10-minute fixed defrost time • Pin-selectable intervals: 30/60/90 minutes • Test pins reduce test time by 256x • Recycle function melts frost on coils • Integral short cycle protection	• **Voltage:** 18-30 VAC • **Frequency:** 50-60 Hz • **Outdoor fan relay output:** • 1/2 HP fan @ 240 VAC • **Strip heat, reversing valve outputs:** • 24 VAC, 1 amp • **Anti-short cycle time:** 5 minutes • **Defrost time:** 10-minute fixed • **Interval times:** Pin-selectable 30/60/90 minutes	• **ICM:** DFORB24A2I300 • **Nordyne:** 624519A
	**ICM320** • Replacement for Carrier HK32FA006 • Low cost, time and temperature defrost • Time and temperature terminate • 10-minute fixed defrost time • Pin-selectable intervals: 30/50/90 minutes • Test pins reduce test time by 256x • Stable pin post construction	• **Voltage:** 18-30 VAC • **Frequency:** 50-60 Hz • **Outdoor fan relay output:** • 1/2 HP fan @ 240 VAC • **N.O.:** 2 amps • **Form:** SPST • **Defrost time:** 10-minute fixed • **Interval times:** Pin-selectable 30/50/90 minutes	• **Carrier:** HK25SZ359/9A HK32FA006
	**ICM321** • Low cost, time and temperature defrost • Time and temperature terminate • 10-minute fixed defrost time • Pin-selectable intervals: 30/50/90 minutes • Test pins reduce test time by 256x • High power output, outdoor fan (1/2 HP fan @ 240 VAC) • Strip heat, reversing valve outputs (24 VAC, 1 amp) • Integral short cycle protection	• **Voltage:** 18-30 VAC • **Frequency:** 50-60 Hz • **Outdoor fan relay output:** • **N.O.:** 20 amps • **N.C.:** 10 amps • **Form:** SPDT • **Anti-short cycle time:** 5 minutes • **Defrost time:** 10-minute fixed • **Interval times:** Pin-selectable 30/50/90 minutes	• **Carrier:** CES0110063-00 CES0110063-01 CES0110063-02 CES0110063-02A CES0130024-01 150-83-6A
	**ICM322** • Low cost, time and temperature defrost • Time and temperature terminate • 10-minute fixed defrost time • Pin-selectable intervals: 30/50/90 minutes • Test pins reduce test time by 256x • High power output, outdoor fan (1/2 HP fan @ 240 VAC) • Strip heat, reversing valve outputs (24 VAC, 1 amp)	• **Voltage:** 18-30 VAC • **Frequency:** 50-60 Hz • **Outdoor fan relay output:** • **N.O.:** 20 amps • **N.C.:** 10 amps • **Defrost time:** 10-minute fixed • **Interval times:** Pin-selectable 30/50/90 minutes	• **Carrier:** CES0130024-00
	**ICM323** • Same as ICM304 but for heat active reversing valve • Sensor input for defrost terminate • Time and temperature terminate • 10-minute fixed defrost time • Pin-selectable intervals: 30/60/90 minutes • Y input tracks compressor run times • Integral short cycle protection • Heat active reversing valve	• **Voltage:** 18-30 VAC • **Frequency:** 50-60 Hz • **Strip heat, reversing valve outputs:** • 24 VAC, 1 amp • **Defrost time:** 10-minute fixed • **Interval times:** Pin-selectable 30/60/90 minutes	• **ICP:** Heat active (B) RV
	**ICM350** - Adjustable 30, 60, 90, & 120 minute timing sequences - Speedup jumper for quicker testing and troubleshooting - Brownout monitoring - Microcontroller precision timing - Time and temperature termination - Quiet Shift : Reduces noise disturbance when entering and exiting the defrost sequence (HK32EA003 & HK32EA008) - 5 minute anti short cycle delay (HK32EA003 & HK32EA008) - Optional random start timer (HK32EA003 & HK32EA008)	• **Voltage:** 18-30 VAC • **Frequency:** 50/60 Hz • **Power Consumption:** 1 Watt max. • **Current Draw:** 300mA maximum • **Maximum Defrost Sequence:** 10 minutes	• **Carrier:** HK32EA001, HK32EA003, HK32EA008 and comparable defrost control boards

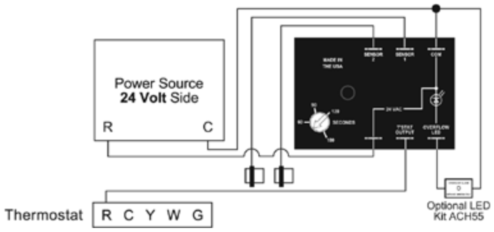
Prevent Overflowing of an Evaporator Condensation Pan

APPLICATION

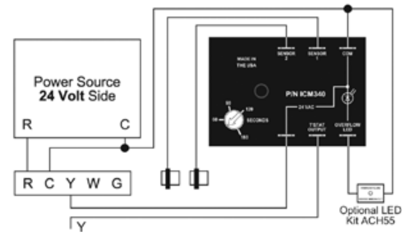
ICM's condensate control systems protect your cooling and refrigeration equipment by detecting and preventing overflows in the evaporator condensation pan due to slow and/or blocked drains or pump failure. These reliable, low cost controls come with fixed or adjustable delays to eliminate nuisance trips and lockouts. Use in conjunction with our audible alarm to quickly alert you to an ensuing condensate problem.

ICM340 Wiring Diagrams

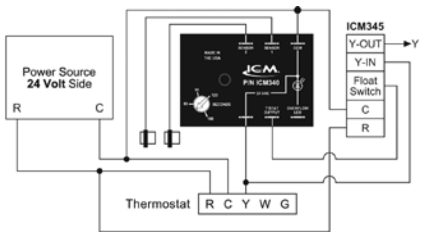
Wiring Diagram Breaking "R" Wire



Wiring Diagram Breaking "Y" Wire



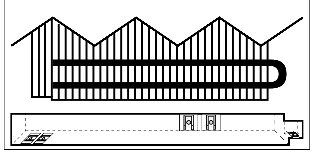
Wiring Diagram ICM340 with ICM345 Alarm

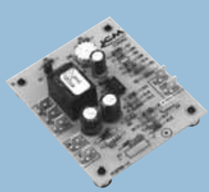
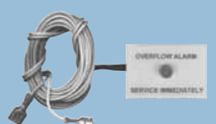


Application

Sensors can be clipped to or pressed onto side, adhered to bottom of pan or inserted into drain pipe.

Primary Drain Pan

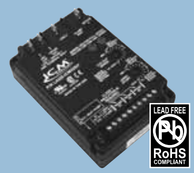


ICM Control	Features and Applications	Specifications	Replaces
	**ICM340** • Low cost condensation control used to prevent overflowing of an evaporator drain pan • Two sensors for water detection • Adjustable delay before break time to prevent nuisance trips • Optional overflow LED kit	• **Voltage:** 18-30 VAC • **Output:** • 24 VAC to thermostat/cooling control • 24 VAC to optional overflow LED • **Output rating:** 2 amps • **Delay before trip:** 1-3 minutes • **Operating frequency:** 50-60 Hz • **Maximum operating/storage relative humidity:** • 95% non-condensing • **Storage temperature:** -40°C to +85°C • **Quick connects:** (1/4 inch) for easy hookup • **Provides:** Maximum protection against moisture and allows use in extreme environmental conditions	**Water Guard:** 401475
	**ICM342** • Low cost condensation sensing control with an integral delay on make timer • Condensation sensing for overflow protection • Alarm output during lockout • Custom delay on make available (fixed or adjustable) • Conformal coating for moisture protection	• **Voltage:** 18-30 VAC • **Frequency:** 50-60 Hz • **Output:** • **Type:** Relay • **N.O.:** 10 amps @ 120 VAC • **N.C.:** 10 amps @ 120 VAC • **Time delays:** Delay on make: Custom delay available, fixed or adjustable • **Dimensions:** 2.75" x 3.25"	N/A
	**ICM345** • Low cost condensation sensing control with anti-short cycle delay and audible/visual condensation alarm • Condensation sensing for overflow protection • Audible and visual alarm when condensation is detected • ASC protection for compressor • Works in conjunction with any thermostat or existing condensation control • Elegant design	• **Voltage:** 18-30 VAC • **Frequency:** 50-60 Hz • **Output:** • **Type:** Relay • **N.O.:** 1 amp @ 30 VAC • **Audible:** Buzzer • **Visual:** LED Indicator • **Time delays:** Anti-short cycle: 5-minutes fixed • **Dimensions:** 4 1/2" x 2 3/4" x 7/8"	N/A
	**ACH55** • Optional overflow alarm LED kit • For use with **ICM340** or **ICM342** • 6 ft. cable length		N/A

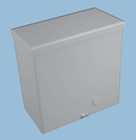
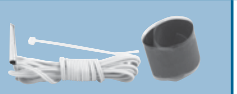
What makes ICM Controls' Head Pressures Controls Better?

Check out our educational video online at **www.icmcontrols.com/videolibrary**

Head Pressure/Low Ambient Fan Controls

ICM Control	Features and Applications	Specifications	Replaces
	**ICM325HN (120-480 VAC)** **ICM325HNV (600 VAC)** • Integral heat pump bypass circuitry allows electronic bypass of speed control • Eliminates overshoots common to on/off and pressure switch controls • Helps prevent evaporator freeze-ups, low pressure cut-outs and liquid-slugged compressors in low ambient conditions • Hard start, low temperature cutoff, isolated 24 VAC supply • Controls up to 3 refrigerant circuits • Typical application: A/C and heat pumps	• **Input:** • **Control:** 18-30 VAC • **Frequency:** 50-60 Hz, 1.8 VA max. • **Line input:** 120-480 VAC (ICM325HN) 600 VAC (ICM325HNV) • **Output:** • **Maximum:** 10 amps • **Minimum:** 100 mA • **Modulation:** 70°F to 100°F • **Dimensions:** 4.5" x 3" x 1.75"	• **ACT:** FM2000 • **Hoffman:** 800, 800A, 800AA 814-50 816-10 • **Ranco:** E31Series
	**ICM326HN (120 or 208/240 VAC)** • Integral heat pump bypass circuitry allows electronic bypass of speed control • Built in transformer eliminates cost, reduces installation time and simplifies wiring • Helps prevent evaporator freeze-ups, low pressure cut-outs and liquid-slugged compressors in low ambient conditions • Hard start, low temperature cutoff, high temperature bypass • Ideal for line voltage air conditioning and refrigeration	• **Input:** • **Control:** 120 or 208/240 VAC • **Frequency:** 50-60 Hz • **Output:** • **Maximum:** 10 amps • **Minimum:** 100 mA • **Modulation:** 70°F to 100°F • **Dimensions:** 4.5" x 3" x 2"	• **ACT:** FM4000 • **Hoffman:** 800, 800A, 800AA 814-50 816-10 • **Ranco:** E31
	**ICM326HM2 (120 or 240 VAC)** • Integral heat pump bypass circuitry allows you to electronically bypass the speed control during heat pump operation • Solid state 10 amp load carrying capability • Single unit controls up to 3 refrigerant circuits • Hard start, low temperature cutoff, high temperature bypass • Integral transformer simplifies installation, reduces cost; direct setup from the line voltage • Ideal for "low ambient" conditions found in: – Supermarkets, frozen food storage – Computer rooms, cooling tower fans – Temperature/humidity-sensitive environments	• **Input/Output Voltage** • **Input/output:** 120 or 208/240 VAC • **Frequency:** 50-60 Hz • **Power Consumption:** 4 VA @ 24 VAC • **Output** • **Type:** Solid state • **Form:** Triac • **Output current:** Maximum: 10 amps Minimum: 100 mA • **Frequency**: 50-60 Hz • **Voltage drop:** 3.0 volts maximum • **Leakage current:** 5 mA maximum • **Modulation:** 80°F to 105°F	• **Mitsubishi:** MU09NW, MUH09NW, MU12NN, MU15NN, MU17NN, MUM18NW, MUM30NN, MUM30NN2
	**ICM327HN (480 VAC)** • Integral heat pump bypass circuitry allows electronic bypass of speed control • Built in transformer eliminates cost, reduces installation time and simplifies wiring • Helps prevent evaporator freeze-ups, low pressure cut-outs and liquid-slugged compressors in low ambient conditions • Hard start, low temperature cutoff, high temperature bypass • Ideal for line voltage air conditioning and refrigeration	• **Input:** • **Control:** 480 VAC • **Frequency:** 50-60 Hz • **Output:** • **Maximum:** 10 amps • **Minimum:** 100 mA • **Modulation:** 70°F to 100°F • **Dimensions:** 4.5" x 3" x 2"	• **ACT:** FM4000 • **Hoffman:** 800, 800A, 800AA 814-50 816-10 • **Ranco:** E31
	**ICM330 (120-480 VAC)** • Pressure or temperature control • Integral heat pump bypass circuitry allows electronic bypass of speed control and eliminates overshoots common to on/off and pressure switch controls • Helps prevent evaporator freeze-ups, low pressure cut-outs and liquid-slugged compressors in low ambient conditions • One model covers 120-480 VAC • Hard start, low temperature bypass, isolated 24 VAC supply • Controls one refrigerant circuit • Typical application: A/C and heat pumps + DIN rail mount	• **Input:** • **Control:** 18-30 VAC • **Frequency:** 50-60 Hz, 1.8 VA max. • **Line input:** 120-480 VAC • **Output:** • **Maximum:** 4 amps • **Minimum:** 100 mA • **Modulation:** 70°F to 100°F 35-465 psi set point • **Opt. pressure transducer**: ICM380 • **Dimensions:** 4.5" x 3" x 1.75"	• **Johnson Controls:** P66AAB/AAD
	**ICM333 (120-600 VAC)** • Support for dual temperature OR dual pressure probes • 120-600 VAC • Integral heat pump bypass circuitry allows for electronic bypass of speed control • Dial temperature or pressure setpoint: 70°F to 140°F 35-465 psig • Helps prevent evaporator freeze-ups, low pressure cut-outs and liquid slugged compressors in low ambient conditions • Hard start, low temperature cutoff, high temp bypass • Ideal for line voltage air conditioning and refrigeration	• **Line voltage:** 120, 208, 240, 277, 480 and 600 VAC • **Control voltage:** 18-30 VAC • **Frequency:** 50-60 Hz • **Operating temp.:** -40°F to +176°F • **Probes:** • **Temp.:** Thermistor, 10K ohm at 77°F • **Pressure:** ICM380 (ordered separately) • **Heat pump override:** 24 VAC, N.C./N.O. • **Mounting:** Surface mount using (2) #8 screws	• **Johnson Controls:** P66BAB/BAD

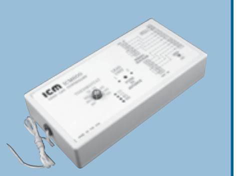
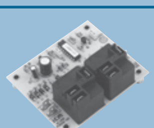
Head Pressure/Accessories

ICM Control	Features and Applications	Specifications	Replaces
	**ACC-OE-03 (Outdoor Enclosure)** • Rugged steel construction • Easy to mount • Helps to protect controls from harsh environmental conditions such as temperature, shock, humidity and vibration • Ideal for use with ICM head pressure controls	NEMA 3R rated • **Dimensions:** 4.25" x 6.25" x 6.25"	N/A
	**ICM379 Probe** • Probe for use with **ICM325HN**, **ICM326HN**, **ICM327HN** and **ICM330/ICM332/ICM333** head pressure controls with optional heat pump bypass feature	• **Length:** 6' - 7" • 70°F to 100°F (21°C to 38°C)	N/A
	**ICM380** • Optional pressure transducer for **ICM330/ICM332/ICM333** single phase head pressure controls	• **Length:** 72" • 0-500 psi • 1/4" SAE female flare with Schraeder deflator	N/A

Lead-Lag Controls

ICM lead lag controls offer true, dual-stage control to balance the operating run time between two redundant units. They feature built-in short cycle protection and status LED lights for at a glance diagnostics. Ideal for use in conjunction with telephone relay hubs/substations and/or remote, unmanned computer stations.

Reliable Long Life Switching

ICM Control	Features and Applications	Specifications	Replaces
	**ICM600** • True dual stage control • Built in thermostat with: • Adjustable setpoint • Adjustable deadband • Adjustable sequencer • Regulates 1 or 2 heating/cooling systems • Compact housing • Safety system halon contacts • Memory on power loss • Accelerated test mode • Isolated inputs • Isolated solid state outputs • Built in anti-short cycle delays • Status LEDs • Advance state switch • Ideal for refrigeration applications, communication substations, water treatment plants anywhere redundant systems are used	• **Voltage:** 18-30 VAC • **Frequency:** 50-60 Hz • **Maximum amps:** 2 amps • **Power consumption:** 2 watts maximum • **Adjustable thermostat features:** • **Set point:** 55°F to 90°F (adjustable) • **Deadband:** 2°F to 20° (adjustable) • **Sequencer:** 1-28 days (adjustable) • **Dimensions:** 4.25" x 8.5" x 2"	N/A
	**ICM602** • Low cost, open board lead lag control • Regulates two single stage devices • Reliable, long life switching • Status LEDs • Ideal for refrigeration applications	• **Voltage:** 18-30 VAC (24 VAC) • **Frequency:** 50-60 Hz • **Maximum amps:** 2 amps • **Power consumption:** 2 watts maximum • **Dimensions:** 3" x 3.5"	N/A

Thermostats

- *Programmable & Non-Programmable*
- *A model for every situation*
- *New Wi-Fi & humidity control models*
- *New Managed Property thermostats*
- *Large displays*
- *Simple installation*
- *Available with custom logo*











Simple Comfort® Non-Programmable

Heat Only Thermostats

SC1600L: 1-stage heat, battery, no fan output
SC1600VL: 1-stage heat, battery, no fan output, vertical
SC1800L: 1-stage heat, battery
SC1800VL: 1-stage heat, battery, vertical

Cool Only Thermostats

SC1901L: 1-stage cool, hardwired
SC1901VL: 1-stage cool, hardwired, vertical

Heat/Cool Thermostats

SC1001: 1-stage heat/cool, analog
SC1001V: 1-stage heat/cool, analog, vertical
SC2000L: 1-stage heat/cool, backlit display, battery
SC2000VL: 1-stage heat/cool, backlit display, battery, vertical
SC2001L: 1-stage heat/cool, backlit display, hardwired
SC2001VL: 1-stage heat/cool, backlit display, hardwired, vertical
SC2010L: 1-stage heat/cool, backlit display, dual powered
SC4010: 1-stage heat/cool, auto changeover, dual powered, PRO series
SC4011: 1-stage heat/cool, auto changeover, hardwired, PRO series

Heat Pump Only Thermostats

SC2201L: 2-stage heat/1-stage cool, backlit display, hardwired
SC2201VL: 2-stage heat/1-stage cool, backlit display, hardwired, vertical
SC2211L: 3-stage heat/2-stage cool, backlit display, hardwired
SC4211: 2-stage heat pump, auto changeover, hardwired, PRO series

Multi-Stage Thermostats

SC2311L: 2-stage heat, 1-stage cool, hardwired
SC4811: 2-stage heat/cool, auto changeover, hardwired, PRO series
SC4812: 3-stage heat, 2-stage cool, auto changeover, hardwired, dual fuel compatible, PRO series
SC4813: 3-stage heat, 2-stage cool, auto changeover, hardwired, PRO series

Simple Comfort® Programmable

Heat/Cool Thermostats

SC3000L: 1-stage heat/cool, battery
SC3001L: 1-stage heat/cool, hardwired
SC3010L: 1-stage heat/cool, dual powered
SC5010: 1-stage heat/cool, auto changeover, dual powered, PRO series
SC5011: 1-stage heat/cool, auto changeover, hardwired, PRO series

Heat Pump Only Thermostats

SC3211L: 2-stage heat pump, hardwired,
SC5211: 2-stage heat pump, auto changeover, hardwired, PRO series

Multi-Stage Thermostats

SC5811: 2-stage heat/cool, auto changeover, hardwired, PRO series
SC5812: 3-stage heat, 2-stage cool, auto changeover, hardwired, dual fuel compatible, PRO series
SC5813: 3-stage heat, 2-stage cool, auto changeover, hardwired, PRO series

Fan Coil

SC700V: 4-pipe heat/cool, 3-speed fan, auto changeover
SC710V: 4-pipe heat/cool, 3-speed fan, manual changeover
SC900V: 2 or 4-pipe, 3-speed fan, auto or manual changeover

I3-Series Touch

Base Models

I1010: 1-stage heat/cool, 7-day programmable, dual powered
I2010: 2-stage heat/1-stage cool, 7-day programmable, dual powered
I2020: 2-stage heat/2-stage cool, 7-day programmable, dual powered
I3020: 3-stage heat/2-stage cool, 7-day programmable, dual powered

Wi-Fi Models

I1010W: 1-stage heat/cool, 7-day programmable, hardwired
I2010W: 2-stage heat/1-stage cool, 7-day programmable, hardwired
I2020W: 2-stage heat/2-stage cool, 7-day programmable, hardwired
I3020W: 3-stage heat/2-stage cool, 7-day programmable, hardwired

Humidity Control Models

I1010H: 1-stage heat/cool, 7-day programmable, dual powered
I2010H: 2-stage heat/1-stage cool, 7-day programmable, dual powered
I2020H: 2-stage heat/2-stage cool, 7-day programmable, dual powered

Wi-Fi + Humidity Control Models

I1010WH: 1-stage heat/cool, 7-day programmable, hardwired
I2010WH: 2-stage heat/1-stage cool, 7-day programmable, hardwired
I2020WH: 2-stage heat/2-stage cool, 7-day programmable, hardwired

Managed Property

Non-Programmable

MP2010L: 1-stage heat/cool, one-time configurable, dual powered
MP2211L: 3-stage heat/2-stage cool, heat pump only, one-time configurable, hardwired
MP4010: 1-stage heat/cool, one-time configurable, auto changeover, dual powered
MP4211: 2-stage heat pump only, one-time configurable, auto changeover, hardwired

Programmable

MP5010: 1-stage heat/cool, one-time configurable, 7-day/5-2-day or 5-1-1-day programmable, auto changeover, dual powered
MP5211: 2-stage heat pump only, one-time configurable, 7-day/5-2-day or 5-1-1-day programmable, auto changeover, hardwired

Garage

FS40: Frost Sentry™, 40°F fixed, no display, hardwired
FS1500L: Frost Sentry™, 35°F-75°F, heat only, battery
FS1500VL: Frost Sentry™, 35°F-75°F, heat only, battery, vertical

Temporary Construction

SC045: Cool only, 45°F fixed
SC055: Cool only, 55°F fixed
SC060: Heat only, 60°F fixed
SC065: Heat only, 65°F fixed
SC070: Heat only, 70°F fixed
SC075: Cool only, 75°F fixed
SC085: Cool only, 85°F fixed

Accessories

ACC-OD103: Outdoor sensor for SC4812 and SC5812 thermostats
ACC-RT103: Remote Sensor for PRO Series (except SC4010 and SC5010 series)
ACC-RT104: Remote Sensor for SC1000/SC2000/SC3000 series, PRO series dual power (SC4010, SC5010)
ACC-WIH21: SimpleSet™ Master-to-Target Cable PRO Series
ACC-WP03: Large, universal insulated wall plate
ACC-WP04: Small, universal insulated wall plate

Through innovation, comes affordability!

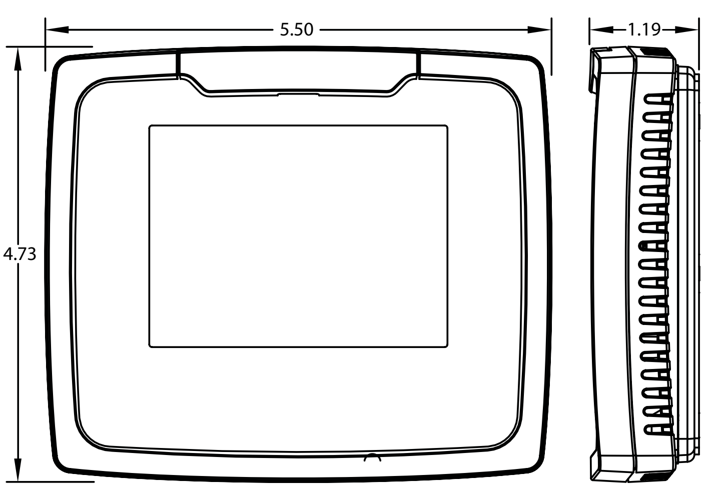
Designed around capacitive touch sensing technology, the new and innovative I³– Series Touch Thermostats from ICM Controls feature huge displays and a patent-pending dynamic interface for intuitive programming that uses familiar icons that illuminate only when they are needed – all for an amazingly affordable price!



Features:

- **Large Display –** Touch icons positioned off display for larger viewing area; keeps display clean of fingerprints
- **Buttonless/Switchless Front –** No mechanical buttons or switches to break or wear
- **Dynamic Interface –** Highly intuitive - patent-pending! Icons illuminate ONLY when they are needed
- **Customizable Printed Interface –** Color and plastic can be customized
- **Customizable Icons –** Can use branded icons, or those found on most cell phones, in any desired backlit color
- **Humidity Control –** Humidity Control model available
- **Positioning –** Thin profile ideal for either "in control" or "wall mount" applications
- **Mounting Base –** Designed with sub base to make installation a "snap"
- **Removable Logo Plate –** Great for customers to promote their business
- **WiFi –** WiFi compatible model available with user friendly connectivity
- **Thermal Safety –** Excessive heating bi-metal safety switch
- **User Coded Lockout –** Designed with renters and children in mind

Dimensions



Specifications:

- 6 (1A) relay outputs
- Dual Powered – 24 VAC, 2 AA batteries & power stealing
- Remote temperature monitoring inputs (optional)
- Humidification/dehumidification (optional)
- WiFi (optional)
- Sub-base terminations
- Up to 13 buttons for customization

Typical Applications:

- Temperature Controls
- Appliances
- Pool & Spa
- Test Equipment
- Security Locks
- Kiosks/POS Displays
- And lots more!

I³ Standard Thermostats

ICM P/N	TYPE	STAGES	HEAT PUMP	POWER	WI-FI	HUMIDITY	TERMINATIONS
I1010	7-Day Programmable	1H/1C	Y	Dual	N	N	R, C, W1/O/B, Y1, G, S1, S2
I2010	7-Day Programmable	2H/1C	Y	Dual	N	N	R, C, W1/O/B, W2, Y1, G, S1, S2
I2020	7-Day Programmable	2H/2C	Y	Dual	N	N	R, C, W1/O/B, W2, Y1, Y2, G, S1, S2
I3020	7-Day Programmable	3H/2C	Y	Dual	N	N	R, C, W1/O/B, W2, AUX, Y1, Y2, G, S1, S2

I³ Wi-Fi Thermostats

ICM P/N	TYPE	STAGES	HEAT PUMP	POWER	WI-FI	HUMIDITY	TERMINATIONS
I1010W	7-Day Programmable	1H/1C	Y	Hardwired	Y	N	R, C, W1/O/B, Y1, G, S1, S2
I2010W	7-Day Programmable	2H/1C	Y	Hardwired	Y	N	R, C, W1/O/B, W2, Y1, G, S1, S2
I2020W	7-Day Programmable	2H/2C	Y	Hardwired	Y	N	R, C, W1/O/B, W2, Y1, Y2, G, S1, S2
I3020W	7-Day Programmable	3H/2C	Y	Hardwired	Y	N	R, C, W1/O/B, W2, AUX, Y1, Y2, G, S1, S2

I³ Humidity Control Thermostats

ICM P/N	TYPE	STAGES	HEAT PUMP	POWER	WI-FI	HUMIDITY*	TERMINATIONS
I1010H	7-Day Programmable	1H/1C	Y	Dual	N	Y	R, C, W1/O/B, AUX, Y1, G, S1, S2
I2010H	7-Day Programmable	2H/1C	Y	Dual	N	Y	R, C, W1/O/B, W2, AUX, Y1, G, S1, S2
I2020H	7-Day Programmable	2H/2C	Y	Dual	N	Y	R, C, W1/O/B, W2, AUX, Y1, Y2, G, S1, S2

I³ Wi-Fi & Humidity Control Thermostats

ICM P/N	TYPE	STAGES	HEAT PUMP	POWER	WI-FI	HUMIDITY*	TERMINATIONS
I1010WH	7-Day Programmable	1H/1C	Y	Hardwired	Y	Y	R, C, W1/O/B, AUX, Y1, G, S1, S2
I2010WH	7-Day Programmable	2H/1C	Y	Hardwired	Y	Y	R, C, W1/O/B, W2, AUX, Y1, G, S1, S2
I2020WH	7-Day Programmable	2H/2C	Y	Hardwired	Y	Y	R, C, W1/O/B, W2, AUX, Y1, Y2, G, S1, S2

* *Includes AUX output that is software configurable for humidification or dehumidification applications.*

Simple to install.
Simple to operate.
Simply dependable.



SimpleComfort® means simple control for year-round comfort and energy savings. These elegantly designed thermostats are extra rugged, highly reliable and accurate—ready for many years of worry-free operation. Simply perfect for residential or light commercial new construction or replacement. Easy, intuitive operation makes it simple to match temperature to any family's lifestyle. And with exclusive **SimpleComfort®** staging control, you can easily configure for optimum energy savings — or extra comfort.

SimpleComfort® thermostats feature:

- Vertical or horizontal mounting options (model dependent)
- Large display
- Precise temperature sensing
- Accuracy: ± 1°F
- Easy access terminal block
- Soft touch controls
- Adjustable temperature differential
- Zoning system compatible
- Integrated four-minute short-cylce protection
- Mecury-free, environmentally safe
- Status LEDs

Standard Non-Programmable Thermostats

ICM Control	Features and Applications	Specifications	Terminations
	**SC1001** • Low cost, electronic, heat/cool thermostat • ICM patented Thermal Intrusion Barrier • Easy "slide-bar" temperature adjustment • Easy-view adjustment scale	• **Electrical Rating:** • 24 VAC (18-30 VAC) • 1 amp maximum per terminal • 3 amp maximum total load • **Temperature control ranges:** 45°F to 90°F, Accuracy ± 1°F	R, C, W, Y, O, B, G
	**SC1001V** • Low cost, electronic, heat/cool thermostat • ICM patented Thermal Intrusion Barrier • Easy "slide-bar" temperature adjustment • Easy-view adjustment scale • Vertical design for easy J-box installations	• **Electrical Rating:** • 24 VAC (18-30 VAC) • 1 amp maximum per terminal • 3 amp maximum total load • **Temperature control ranges:** 45°F to 90°F, Accuracy ± 1°F	R, C, W, Y, O, B, G
	**SC1600L** • Single-stage heat thermostat • ICM patented Thermal Intrusion Barrier • Large backlit LCD display • Battery operated • Low battery indicator • Millivolt compatible • Freeze protection feature • Remote sensor compatible • Compatible with gas, oil and hydronic systems • Selectable °F and °C	• **Electrical Rating:** • 24 VAC (18-30 VAC) • 1 amp maximum per terminal • 3 amp maximum total load • **Temperature control ranges:** 45°F to 90°F, Accuracy ± 1°F	R, W, S1, S2
	**SC1600VL** • Single-stage heat thermostat • ICM patented Thermal Intrusion Barrier • Large backlit LCD display • Battery operated • Low battery indicator • Millivolt compatible • Freeze protection feature • Remote sensor compatible • Compatible with gas, oil and hydronic systems • Vertical design for easy J-box installations • Selectable °F and °C	• **Electrical Rating:** • 24 VAC (18-30 VAC) • 1 amp maximum per terminal • 3 amp maximum total load • **Temperature control ranges:** 45°F to 90°F, Accuracy ± 1°F	R, W, S1, S2
	**SC1800L** • Heat only thermostat • ICM patented Thermal Intrusion Barrier • Large backlit LCD display • Battery operated • Low battery indicator • Millivolt compatible • Freeze protection feature • Remote sensor compatible • Compatible with gas, oil and electric systems	• **Electrical Rating:** • 24 VAC (18-30 VAC) • 1 amp maximum per terminal • 3 amp maximum total load • **Temperature control ranges:** 45°F to 90°F, Accuracy ± 1°F	R, W, G, S1, S2
	**SC1800VL** • Heat only thermostat • ICM patented Thermal Intrusion Barrier • Large backlit LCD display • Battery operated • Low battery indicator • Millivolt compatible • Freeze protection feature • Remote sensor compatible • Compatible with gas, oil and electric systems • Vertical design for easy J-box installations	• **Electrical Rating:** • 24 VAC (18-30 VAC) • 1 amp maximum per terminal • 3 amp maximum total load • **Temperature control ranges:** 45°F to 90°F, Accuracy ± 1°F	R, W, G, S1, S2

Standard Non-Programmable Thermostats

ICM Control	Features and Applications	Specifications	Terminations
	**SC1901L** • Single-stage cool only thermostat • ICM patented Thermal Intrusion Barrier • Large backlit LCD display • Hardwired • Remote sensor compatible • Compatible with A/C systems	• **Electrical Rating:** • 24 VAC (18-30 VAC) • 1 amp maximum per terminal • 3 amp maximum total load • **Temperature control ranges:** 45°F to 90°F, Accuracy ± 1°F	R, C, Y, G, S1, S2
	**SC1901VL** • Single-stage cool only thermostat • ICM patented Thermal Intrusion Barrier • Large backlit LCD display • Hardwired • Remote sensor compatible • Compatible with A/C systems • Vertical design for easy J-box installations	• **Electrical Rating:** • 24 VAC (18-30 VAC) • 1 amp maximum per terminal • 3 amp maximum total load • **Temperature control ranges:** 45°F to 90°F, Accuracy ± 1°F	R, C, Y, G, S1, S2
	**SC2000L** • For single-stage heat/cool or single-stage heat pump • ICM patented Thermal Intrusion Barrier • Large backlit LCD display • Battery operated • Low battery indicator • Millivolt compatible • Manual changeover • Freeze protection • Zone compatible • Selectable °F and °C	• **Electrical Rating:** • 24 VAC (18-30 VAC) • 1 amp maximum per terminal • 3 amp maximum total load • **Temperature control ranges:** 45°F to 90°F, Accuracy ± 1°F	RC, RH, W, Y, O, B, G
	**SC2000VL** • For single-stage heat/cool or single-stage heat pump • ICM patented Thermal Intrusion Barrier • Large backlit LCD display • Battery operated • Low battery indicator • Millivolt compatible • Manual changeover • Freeze protection • Zone compatible • Vertical design for easy J-box installations • Selectable °F and °C	• **Electrical Rating:** • 24 VAC (18-30 VAC) • 1 amp maximum per terminal • 3 amp maximum total load • **Temperature control ranges:** 45°F to 90°F, Accuracy ± 1°F	RC, RH, W, Y, O, B, G
	**SC2001L** • For single-stage heat/cool or single-stage heat pump • ICM patented Thermal Intrusion Barrier • Large backlit LCD display • Hardwired • Manual changeover • 4- or 5-wire compatible • Zone compatible	• **Electrical Rating:** • 24 VAC (18-30 VAC) • 1 amp maximum per terminal • 3 amp maximum total load • **Temperature control ranges:** 45°F to 90°F, Accuracy ± 1°F	R, C, W, Y, O, B, G
	**SC2001VL** • For single-stage heat/cool or single-stage heat • ICM patented Thermal Intrusion Barrier • Large backlit LCD display • Hardwired • Manual changeover • 4- or 5-wire compatible • Zone compatible • Vertical design for easy J-box installations	• **Electrical Rating:** • 24 VAC (18-30 VAC) • 1 amp maximum per terminal • 3 amp maximum total load • **Temperature control ranges:** 45°F to 90°F, Accuracy ± 1°F	R, C, W, Y, O, B, G

Standard Non-Programmable Thermostats

ICM Control	Features and Applications	Specifications	Terminations
	**SC2010L** • For single-stage heat/cool or single-stage heat pump • ICM patented Thermal Intrusion Barrier • SimpleSet™ target programming technology (configuration only) • Large display with backlight • Adjustable temperature differential • Dual powered • Manual changeover • Permanent memory • Easy access terminal block • Field adjustable calibration • 4- or 5-wire compatible • Freeze protection • Keypad lockout • Selectable °F and °C	• **Electrical Rating:** • 24 VAC (18-30 VAC) • 1 amp maximum per terminal • 3 amp maximum total load • **Temperature control ranges:** 45°F to 90°F, Accuracy ± 1°F	RC, RH, C, W, Y, O, B, G
	**SC2201L** • For two-stage heat, one-stage cool heat pump only • ICM patented Thermal Intrusion Barrier • Large backlit LCD display • Hardwired • Manual changeover • Status LEDs	• **Electrical Rating:** • 24 VAC (18-30 VAC) • 1 amp maximum per terminal • 4 amp maximum total load • **Temperature control ranges:** 45°F to 90°F, Accuracy ± 1°F	R, C, Y1, W2, O, B, G, E
	**SC2201VL** • For two-stage heat, one-stage cool heat pump only • ICM patented Thermal Intrusion Barrier • Large backlit LCD display • Hardwired • Manual changeover • Status LEDs • Vertical design for easy J-box installations	• **Electrical Rating:** • 24 VAC (18-30 VAC) • 1 amp maximum per terminal • 4 amp maximum total load • **Temperature control ranges:** 45°F to 90°F, Accuracy ± 1°F	R, C, Y1, W2, O, B, G, E
	**SC2211L** • For three-stage heat, two-stage cool heat pump • ICM patented Thermal Intrusion Barrier • SimpleSet™ target programming technology (configuration only) • Large display with backlight • Adjustable temperature differential • Hardwired • Manual changeover • Permanent memory • Easy access terminal block • Field adjustable calibration • Zoning system compatible • Selectable °F and °C • Permanent memory • Status LED	• **Electrical Rating:** • 24 VAC (18-30 VAC) • 1 amp maximum per terminal • 4 amp maximum total load • **Temperature control ranges:** 45°F to 90°F, Accuracy ± 1°F	R, C, Y1, Y2, W2, O, B, G, E, L, W3
	**SC2311L** • For two-stage heat, single-stage cool or single-stage heat pump with auxiliary heat • ICM patented Thermal Intrusion Barrier • SimpleSet™ target programming technology (configuration only) • Large display with backlight • Adjustable temperature differential • Hardwired • Manual changeover • Permanent memory • Easy access terminal block • Field adjustable calibration • Selectable °F and °C • Status LED	• **Electrical Rating:** • 24 VAC (18-30 VAC) • 1 amp maximum per terminal • 4 amp maximum total load • **Temperature control ranges:** 45°F to 90°F, Accuracy ± 1°F	R, C, W1/O/B, Y, W2, E, G

Standard Programmable Thermostats

ICM Control	Features and Applications	Specifications	Terminations
	**SC3000L** • For single-stage heat/cool or single-stage heat pump • 7-day, 5-2-day and 5-1-1-day programming • ICM patented Thermal Intrusion Barrier • New SimpleSet™ Target Programming technology • Large display with backlight • Adjustable temperature differential • Battery powered • Manual changeover • Permanent memory • Easy access terminal block • Field adjustable calibration • Millivolt compatible • Freeze protection • Zoning system compatible • Soft-touch controls • Selectable °F and °C	• **Electrical Rating:** • 24 VAC (18-30 VAC) • 1 amp maximum per terminal • 3 amp maximum total load • **Easy access terminal block** • **Temperature control ranges:** 45°F to 90°F, Accuracy ± 1°F	RC, RH, W, Y, O, B, G
	**SC3001L** • For single-stage heat/cool or single-stage heat pump • 7-day, 5-2-day and 5-1-1-day programming • ICM patented Thermal Intrusion Barrier • New SimpleSet™ Target Programming technology • Large display with backlight • Adjustable temperature differential • Hardwired • Manual changeover • Permanent memory • Easy access terminal block • Field adjustable calibration • Zoning system compatible • Soft-touch controls • Selectable °F and °C	• **Electrical Rating:** • 24 VAC (18-30 VAC) • 1 amp maximum per terminal • 3 amp maximum total load • **Easy access terminal block** • **Temperature control ranges:** 45°F to 90°F, Accuracy ± 1°F	RC, RH, W, Y, C, O, B, G
	**SC3010L** • For single-stage heat/cool or single-stage heat pump • 7-day, 5-2-day and 5-1-1-day programming • ICM patented Thermal Intrusion Barrier • New SimpleSet™ Target Programming technology • Large display with backlight • Adjustable temperature differential • Dual powered • Manual changeover • Permanent memory • Easy access terminal block • Field adjustable calibration • 4- or 5-wire compatible • Freeze protection • Zoning system compatible • Soft-touch controls • Selectable °F and °C	• **Electrical Rating:** • 24 VAC (18-30 VAC) • 1 amp maximum per terminal • 3 amp maximum total load • **Easy access terminal block** • **Temperature control ranges:** 45°F to 90°F, Accuracy ± 1°F	RC, RH, C, W, Y, O, B, G
	**SC3211L** • For two-stage heat pump • 7-day, 5-2-day and 5-1-1-day programming • ICM patented Thermal Intrusion Barrier • New SimpleSet™ Target Programming technology • Large display with backlight • Adjustable temperature differential • Hardwired • Manual changeover • Permanent memory • Easy access terminal block • Field adjustable calibration • Vacation hold • Selectable °F or °C • Keypad lockout • Zoning system compatible • Soft-touch controls • Status LEDs	• **Electrical Rating:** • 24 VAC (18-30 VAC) • 1 amp maximum per terminal • 3 amp maximum total load • **Easy access terminal block** • **Temperature control ranges:** 45°F to 90°F, Accuracy ± 1°F	R, C, Y1, Y2, W2, O, B, G, E, L

Simple to install and operate
enhanced quality features

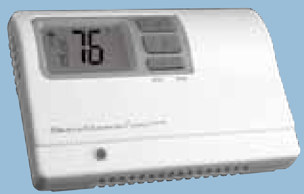


Simplicity is in its name. ICM Controls **SimpleComfort® PRO** thermostats feature innovation and technology that delivers measurable value, simplifies installation and increases profitability. Blending the latest advances in thermostat technology with our new, patented **Thermal Intrusion Barrier** and patented **SimpleSet™ Target Programming**, our **PRO** series thermostats set new industry standards exclusive to ICM Controls.

SimpleComfort® PRO thermostats feature:

- Flexible 7-day, 5-2-day and 5-1-1-day programming (5000 series models only)
- ICM patented **Thermal Intrusion Barrier**
- New ICM patented **SimpleSet™ Target Programming** technology
- Large display with backlight
- Permanent memory
- Accuracy: ± 1°F, ± 0.5°C
- Manual or auto changeover
- Field adjustable calibration
- Adjustable maximum heat/minimum cool setpoints
- Extra comfort and energy savings modes between stages
- Adjustable temperature differential
- Integrated four-minute short-cycle protection
- Configurable remote sensor compatible
- Mecury-free, environmentally safe
- Selectable °F or °C
- Keypad lockout
- Soft-touch controls
- Remote sensor compatible
- Status LEDs

PRO Series Non-Programmable Thermostats

ICM Control	Features and Applications	Specifications	Terminations
	**SC4010 PRO** • For single-stage heat/cool or single-stage heat pump • ICM patented Thermal Intrusion Barrier • ICM SimpleSet™ Target Programming (configuration mode only) • Large display with backlight • Dual powered (battery or hardwired) • Auto or Manual changeover • Permanent memory	• **Electrical Rating:** • 24 VAC (18-30 VAC) • 1 amp maximum per terminal • 4 amp maximum total load • **Easy access terminal block** • **Temperature control ranges:** 45°F to 90°F, Accuracy ± 1°F	RC, RH, C, W/O/B, Y, G, S1, S2
	**SC4011 PRO** • For single-stage heat/cool or single-stage heat pump • ICM patented Thermal Intrusion Barrier • ICM SimpleSet™ Target Programming (configuration mode only) • Large backlit LCD display • Hardwired • Auto or Manual changeover • Permanent memory	• **Electrical Rating:** • 24 VAC (18-30 VAC) • 1 amp maximum per terminal • 4 amp maximum total load • **Easy access terminal block** • **Temperature control ranges:** 45°F to 90°F, Accuracy ± 1°F	RC, RH, C, W/O/B, Y, G, S1, S2
	**SC4211 PRO** • For two-stage heat pump • ICM patented Thermal Intrusion Barrier • ICM SimpleSet™ Target Programming (configuration mode only) • Large backlit LCD display • Hardwired • Auto or Manual changeover • Permanent memory • Adjustable temperature differential for each stage	• **Electrical Rating:** • 24 VAC (18-30 VAC) • 1 amp maximum per terminal • 4 amp maximum total load • **Easy access terminal block** • **Temperature control ranges:** 45°F to 90°F, Accuracy ± 1°F	R, C, Y1, Y2, W2, O/B, G, E, L, S1, S2
	**SC4811 PRO** • For two-stage heat/cool or two-stage heat pump • ICM patented Thermal Intrusion Barrier • ICM SimpleSet™ Target Programming (configuration mode only) • Large backlit LCD display • Hardwired • Auto or Manual changeover • Permanent memory • Adjustable temperature differential for each stage	• **Electrical Rating:** • 24 VAC (18-30 VAC) • 1 amp maximum per terminal • 4 amp maximum total load • **Easy access terminal block** • **Temperature control ranges:** 45°F to 90°F, Accuracy ± 1°F	R, C, W1/O/B Y1, W2, Y2, G, S1, S2
	**SC4812 PRO** • For three-stage heat/two-stage cool or two-stage heat pump • ICM patented Thermal Intrusion Barrier • ICM SimpleSet™ Target Programming (configuration mode only) • Large backlit LCD display • Hardwired • Dual fuel compatible (requires ACC-OD103 outdoor sensor) • Auto or Manual changeover • Permanent memory • Adjustable temperature differential for each stage	• **Electrical Rating:** • 24 VAC (18-30 VAC) • 1 amp maximum per terminal • 4 amp maximum total load • **Easy access terminal block** • **Temperature control ranges:** 45°F to 90°F, Accuracy ± 1°F	R, C, W1/O/B, Y1, W2, Y2, G, W3, S1, S2
	**SC4813 PRO** • For three-stage heat/two-stage cool or two-stage heat pump • ICM patented Thermal Intrusion Barrier • ICM SimpleSet™ Target Programming (configuration mode only) • Large backlit LCD display • Hardwired • Auto or Manual changeover • Permanent memory • Adjustable temperature differential for each stage	• **Electrical Rating:** • 24 VAC (18-30 VAC) • 1 amp maximum per terminal • 4 amp maximum total load • **Easy access terminal block** • **Temperature control ranges:** 45°F to 90°F, Accuracy ± 1°F	R, C, W1/O/B, Y1, W2, Y2, G, W3, S1, S2

PRO Series Programmable Thermostats

ICM Control	Features and Applications	Specifications	Terminations
	**SC5010 PRO** • For single-stage heat/cool or single-stage heat pump • 7-day, 5-2-day and 5-1-1-day programming • ICM patented Thermal Intrusion Barrier • Manual or auto changeover • ICM patent-pending SimpleSet™ Target Programming technology • Large display with backlight • Permanent memory • Dual powered (battery or hardwire)	• **Electrical Rating:** • 24 VAC (18-30 VAC) • 1 amp maximum per terminal • 4 amp maximum total load • **Easy access terminal block** • **Temperature control ranges:** 45°F to 90°F, Accuracy ± 1°F	RC, RH, C, W/O/B, Y, G, S1, S2
	**SC5011 PRO** • For single-stage heat/cool or single-stage heat pump • 7-day, 5-2-day and 5-1-1-day programming • ICM patented Thermal Intrusion Barrier • ICM SimpleSet™ Target Programming • Large backlit LCD display • Hardwired • Auto or Manual changeover • Permanent memory	• **Electrical Rating:** • 24 VAC (18-30 VAC) • 1 amp maximum per terminal • 4 amp maximum total load • **Easy access terminal block** • **Temperature control ranges:** 45°F to 90°F, Accuracy ± 1°F	RC, RH, C, W/O/B, Y, G, S1, S2
	**SC5211 PRO** • For two-stage heat pump • 7-day, 5-2-day and 5-1-1-day programming • ICM patented Thermal Intrusion Barrier • ICM SimpleSet™ Target Programming • Large backlit LCD display • Hardwired • Auto or Manual changeover • Permanent memory • Adjustable temperature differential for each stage	• **Electrical Rating:** • 24 VAC (18-30 VAC) • 1 amp maximum per terminal • 4 amp maximum total load • **Easy access terminal block** • **Temperature control ranges:** 45°F to 90°F, Accuracy ± 1°F	R, C, Y1, Y2, W2, O/B, G, E, L, S1, S2
	**SC5811 PRO** • For two-stage heat/cool or two-stage heat pump • 7-day, 5-2-day and 5-1-1-day programming • ICM patented Thermal Intrusion Barrier • ICM SimpleSet™ Target Programming • Large backlit LCD display • Hardwired • Auto or Manual changeover • Permanent memory • Adjustable temperature differential for each stage	• **Electrical Rating:** • 24 VAC (18-30 VAC) • 1 amp maximum per terminal • 4 amp maximum total load • **Easy access terminal block** • **Temperature control ranges:** 45°F to 90°F, Accuracy ± 1°F	R, C, W1/O/B, Y1, W2, Y2, G, S1, S2
	**SC5812 PRO** • For three-stage heat/two-stage cool or two-stage heat pump • 7-day, 5-2-day and 5-1-1-day programming • ICM patented Thermal Intrusion Barrier • ICM SimpleSet™ Target Programming • Large backlit LCD display • Hardwired • Dual fuel compatible (requires ACC-OD103 outdoor sensor) • Auto or Manual changeover • Permanent memory • Adjustable temperature differential for each stage	• **Electrical Rating:** • 24 VAC (18-30 VAC) • 1 amp maximum per terminal • 4 amp maximum total load • **Easy access terminal block** • **Temperature control ranges:** 45°F to 90°F, Accuracy ± 1°F	R, C, W1/O/B, Y1, W2, Y2, G, W3, S1, S2
	**SC5813 PRO** • For three-stage heat/two-stage cool or two-stage heat pump • 7-day, 5-2-day and 5-1-1-day programming • ICM patented Thermal Intrusion Barrier • ICM SimpleSet™ Target Programming • Large backlit LCD display • Hardwired • Auto or Manual changeover • Permanent memory • Adjustable temperature differential for each stage	• **Electrical Rating:** • 24 VAC (18-30 VAC) • 1 amp maximum per terminal • 4 amp maximum total load • **Easy access terminal block** • **Temperature control ranges:** 45°F to 90°F, Accuracy ± 1°F	R, C, W1/O/B, Y1, W2, Y2, G, W3, S1, S2

Fan Coil Thermostats

ICM Control	Features and Applications	Specifications	Terminations
	**SC700LV/SC700V** • 4 pipe heat/cool • 3 speed fan • Auto changeover • 24 VAC (SC700LV) and 120-240 VAC (SC700V) versions available • Remote room temperature sensor (Optional: Order ACC-RT103) • Horizontal model available • UL Listed	• **Temperature Control Ranges:** • 45°F to 90°F, Accuracy: ±1°F • 7°C to 32°C, Accuracy: ±.5°C • **System Configurations:** • Fan coil thermostat, 4 pipe; 3 speed fan	L1, L2, Y, W, GL, GM, GH, RS
	**SC710LV/SC710V** • 4 pipe heat/cool • 3 speed fan • Manual changeover • 24 VAC (SC710LV) and 120-240 VAC (SC710V) versions available • Remote room temperature sensor (Optional: Order ACC-RT103) • Horizontal model available • UL Listed	• **Temperature Control Ranges:** • 45°F to 90°F, Accuracy: ±1°F • 7°C to 32°C, Accuracy: ±.5°C • **System Configurations:** • Fan coil thermostat, 4 pipe; 3 speed fan	L1, L2, Y, W, GL, GM, GH, RS
	**SC900V** • 2 or 4 pipe • 3 speed fan • Pipe sensor for seasonal changeover • 24 VAC and 120-240 VAC versions available • Manual or auto changeover • Selectable °F or °C • Occupancy sensing compatible • Valve purge timer • Remote room temperature sensor (Optional: Order ACC-RT103) • Large backlit display • Icons for fan and outputs • Permanent memory • Key pad lockout function • Maximum heat/minimum cool set point limits • Soft touch controls	• **Temperature Control Ranges:** • 45°F to 90°F, Accuracy: ±1°F • 7°C to 32°C, Accuracy: ±.5°C • **System Configurations:** • Fan coil thermostat • 2 or 4 pipe; 3 speed fan	L, N, W/Y, Y/A, GL, GM, GH, RS, SC, SB, PS

Frost Sentry™ Garage Thermostats

When it comes to freezing cold temperatures, you can relax knowing that ICM's Frost Sentry™ is on guard. These low-cost thermostats are perfect for areas where protection from extreme cold is essential. Its special foam backing improves accuracy by providing separation from the wall at installation, while sealing up any unsightly wiring holes. This insulated backing helps eliminate the risk of "wall effect" (wall temperature causing false temperature readings). Ideal for storage areas, garages, workshops, crawl spaces and other critical areas.

Frost Sentry™ Garage Thermostats

ICM Control	Features and Applications	Specifications	Terminations
	**FS40** • Easy, two-wire installation • Fixed setpoint at 40°F • Special foam backing improves accuracy; helps eliminate "wall effect" • Sleek, rugged design • Compatible with most standard electric heating units • Ideal for storage areas, garages, workshops and crawl spaces	• **Input:** 18-30 VAC • **Output:** 2 amps max. • **Temperature setpoint:** Fixed 40°F • **Accuracy:** ±5°F	R, W, G
	**FS1500L** • Controls single stage heating systems • Millivolt, hydronic (water or steam) system, gas and electric systems • Battery operated • Backlit display • Mercury-free, environmentally safe • Remote sensor compatible (ACC-RT104) • Perfect for use with unit heaters	• **Electrical Rating:** • 24 VAC (18-30 VAC) • 1 amp maximum per terminal • 2 amp maximum total load • Easy access terminal block • **Temperature control ranges:** • 35°F to 75°F, Accuracy: ±1°F	R, W, G, S1, S2
	**FS1500VL** • Controls single stage heating systems • Millivolt, hydronic (water or steam) system, gas and electric systems • Battery operated • Backlit display • Mercury-free, environmentally safe • Remote sensor compatible (ACC-RT104) • Vertical design for easy J-box installation • Perfect for use with unit heaters	• **Electrical Rating:** • 24 VAC (18-30 VAC) • 1 amp maximum per terminal • 2 amp maximum total load • Easy access terminal block • **Temperature control ranges:** • 35°F to 75°F, Accuracy: ±1°F	R, W, G, S1, S2

Why waste time and money installing dummy thermostats or cases that can be broken into?

ICM Controls' new line of **Managed Property Thermostats** give landlords peace of mind knowing that their profits are safe from tenants who like to "tamper" with their thermostat set points, often resulting in unsuspected, skyrocketing utility costs. Each model features digital accuracy with one-time configurable heat/cool set point limits that cannot be reconfigured, to deter tenants from tampering!

Managed Property Thermostats feature:

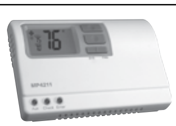
- One-time configurable temperature minimum/maximum set points
- Patent-pending Abnormal Rate of Change (ARC) Detection technology
- Placebo option
- 7-Day, 5-2 day, and 5-1-1 day programming (programmable models only)
- Auto and/or manual changeover
- Large, digital backlit display
- Selectable °F and °C
- Precise temperature sensing (accuracy ±1°F)
- Patented Thermal Intrusion Barrier
- Permanent memory
- Adjustable temperature differential
- Easy-access terminal block
- Integrated 4-minute short-cycle timer
- Soft-touch controls
- Status LEDs (all models but MP2010L)
- Mercury-free, environmentally safe



Specifications:

Electrical Rating: 24 VAC (18-30 VAC)
- 1 amp maximum per terminal
- 3 amp maximum total load (4 amps on multiple-stage units)

Temperature control ranges:
- 45°F to 75°F Heat (7°C to 24°C)
- 70°F to 90°F Cool (21°C to 32°C)

	Model #	Type	Stages	Changeover	Power	Remote Sensor Compatible	Terminations
	MP2010L	Non-Programmable	1H/1C or 1HP	Manual	Dual	N	RC, RH, C, W, Y, O, B, G
	MP2211L	Non-Programmable	3H/2C HP Only	Manual	HW	N	R, C, Y1, Y2, W2, O, B, G, E, L, W3
	MP4010	Non-Programmable	1H/1C or 1HP	Auto/Manual	Dual	Y	RC, RH, C, W/O/B, Y, G, S1, S2
	MP4211	Non-Programmable	2-Stage HP Only	Auto/Manual	HW	Y	R, C, Y1, Y2, W2, O/B, G, E, L, S1, S2
	MP5010	Programmable	1H/1C or 1HP	Auto/Manual	Dual	Y	RC, RH, C, W/O/B, Y, G, S1, S2
	MP5211	Programmable	2-Stage HP Only	Auto/Manual	HW	Y	R, C, Y1, Y2, W2, O/B, G, E, L, S1, S2

The SC045 to SC085 series thermostats are low-cost, single setpoint thermostats intended for use as temporary devices to provide heating or cooling to allow drywall to dry during construction. They also can be used as a low ambient cutoff switch.



Features

- Two-wire installation
- Seven fixed setpoint models to choose from: 45°F to 85°F
- Temporary use for dryout applications
- Can be used as a low ambient cutoff switch

Specifications

- **Input:** 18-30 VAC
- **Output:** 2 amp maximum
- **Temperature Control Range:** 45°F to 85°F (±9°F)

Modes of Operation

• Heat/Cool Thermostat

The heating models will close when the ambient temperature drops below the respective setpoint and open when the ambient temperature is above the respective set point. The cooling models will close when the ambient temperature is above the respective setpoint and open when the ambient temperature drops below the respective set point.

• Low Ambient Cutoff: Condenser Fan Motor

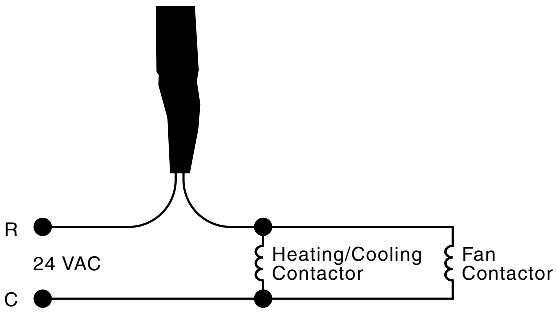
The SC045 and SC055 models can be used as a low ambient cutoff switch for a condenser fan motor. When the ambient temperature drops below the set point, the unit will open the fan signal and turn the fan motor off. It will not allow the fan to turn back on until the temperature rises above the set point.

• Low Ambient Cutoff: Compressor

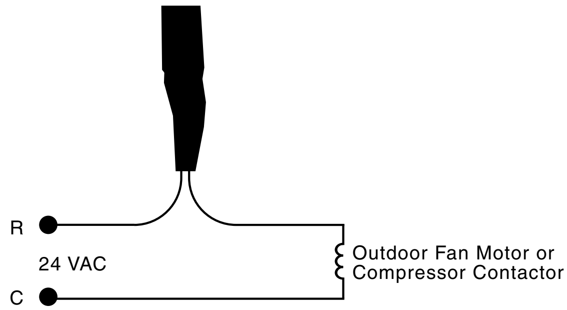
The SC045 and SC055 models can also be used as a low ambient cutoff switch for the compressor when wired in series with the Y circuit from the thermostat. When using with the compressor circuit, an anti-short cycle timer is recommended to prevent possible damage to the compressor from short cycling.

Wiring Diagrams

for Heating/Cooling Thermostats



for Low Ambient Cutoff



Ordering Information

	Dryout Thermostats						
Part Number	SC045	SC055	SC060	SC065	SC070	SC075	SC085
Temperature Range*	45°F ±9°	55°F ±9°	60°F ±9°	65°F ±9°	70°F ±9°	75°F ±9°	85°F ±9°
2-Wire	✔	✔	✔	✔	✔	✔	✔
Heat			✔	✔	✔		
Cool	✔	✔				✔	✔

* Consult factory for other setpoints

Wall Plate

Need more wall coverage?
Choose an ICM insulated wall plate.

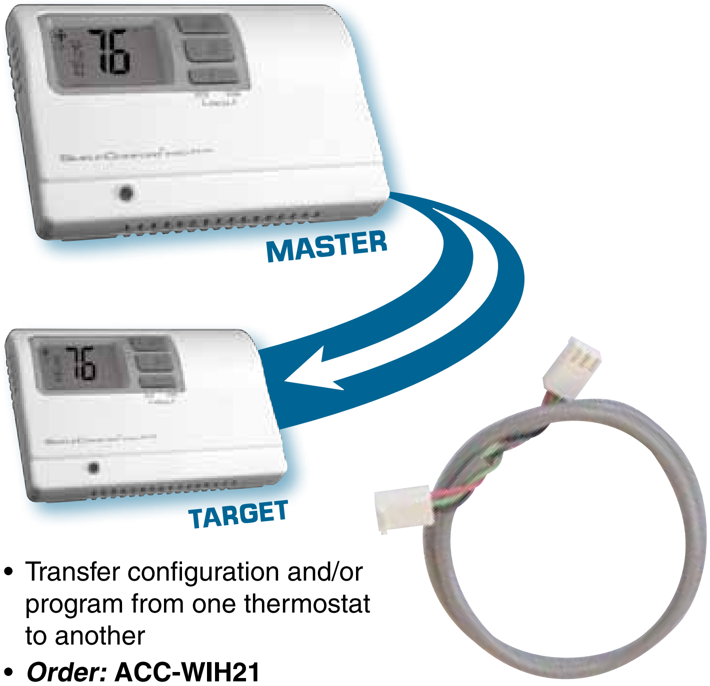


The fast, easy solution for hiding wall problems.

- Rugged, flexible construction
- Foam gasket prevents drafts through wall opening
- Hidden mounting screws (included) for a sleek appearance
- ***Order:* ACC-WP03** – 5 19/32” x 7 1/2”
- ***Order:* ACC-WP04** – 5 27/32” x 5 15/16”

SimpleSet™ Transfer Cable

Program each thermostat in seconds!



- Transfer configuration and/or program from one thermostat to another
- ***Order:* ACC-WIH21**

Remote Sensor

Need to monitor the temperature away from the thermostat?
Choose an ICM remote sensor.

The fast, easy solution for temperature sensing problems.

- For tamper-prone areas
- Poor air flow areas
- Troubled applications
- Foam gasket prevents drafts through wall opening
- Mounts to standard 2” x 4” outlet box
- ***Order:* ACC-RT103** – 2 3/4” x 4 1/2”
  ACC-RT104 – 2 3/4” x 4 1/2”



Remote Sensor Compatible with the Following SimpleComfort® Thermostats

ACC-RT103												
SC700V	SC710V	SC900V	SC4011	SC4211	SC4811	SC4812	SC4813	SC5011	SC5211	SC5811	SC5812	SC5813

Remote Sensor Compatible with the Following SimpleComfort®, Frost Sentry™ and I3 Series Touch Thermostats

ACC-RT104										
SC1600L	SC1600VL	SC1800L	SC1800VL	SC1901L	SC1901VL	SC4010	SC5010	FS1500L	FS1500VL	I3 SERIES

SimpleComfort® Thermostats
Custom Logo Request Form

LIM30-6

See complete instructions on ***Page 56*** *of this catalog.*

Fax to: **(315) 233-5282**

NOW ONLINE AVAILABLE

The complete **custom logo request form** is available on the home page of our web site at **www.icmcontrols.com**

On the **ICM home page**, below **"What's New"** click on **"Custom Logo Form."**
When the document appears, either print it or save it to your desktop. **Note:** Adobe Acrobat Reader is required.

PLEASE FILL OUT COMPLETELY

CONTRACTOR INFORMATION

Contractor Name ______________________

Contractor Address (City, State, Zip) ______________________

( ) ________ **Phone No.** ( ) ________ **Fax No.**

Contact Person ______________________

Email Address ______________________

WHOLESALE COMPANY INFORMATION

Wholesaler Name ______________________

Wholesaler Address (City, State, Zip) ______________________

( ) ________ **Phone No.** ( ) ________ **Fax No.**

Contact Person ______________________

Email Address ______________________

CONTRACTOR NEW or EXISTING?

☐ **New customer** (logo **sign off is mandatory**)

☐ **Existing customer logo** **Changes to Logo **YES****
i.e.: Previous "L" number or Old part numbers • AG, AH, AJ
- **REQUIRES** New request form to be completed and submitted
- Logo will be issued a new logo "L" number and changes made
- **REQUIRES** contractor sign off to be faxed in with P/O
- **Reference new logo "L" number on all future P/O's.**

******Reference to old part numbers = incorrect markings******

☐ **Existing customer logo** **Changes to Logo **NO****
i.e.: Previous "L" number or Old part numbers • AG, AH, AJ
- LOGO IS CORRECT - There are no changes
- Original logo will be issued a new logo "L" number and faxed
- No sign off is necessary. Logo will be on hold until P/O arrives

LOGO ORIGIN (check one)

☐ **Accommodations** have already been made to have a PROPERLY FORMATTED LOGO emailed to ICM. ***See Logo Specifications***

☐ **Please create** a basic imprint for customer
- A basic imprint will be generated. Simply enter information below
- ***From the "Sample Fonts Page," use font #*** ____ ***for this logo***

(Please print legibly and double check for accuracy)

LOGO PLACEMENT

Logo will be marked on thermostats in predetermined locataions for existing thermostats. "SimpleComfort®" branding to remain.

Maximum logo size: 1.2"W x 0.7"H

Line 1: ______________________

Line 2: ______________________

Line 3: ______________________

WHOLESALER'S RESPONSIBILITIES

1. Fax completed request form to ICM at number listed above
   - Attach copy of contractor's logo if logo is being emailed
   - If basic imprint is being created, enter information at left
   - **DO NOT include P/O with initial request form**
2. It is the wholesaler's responsibility to make initial contact and accommodations with the graphics company and to have a properly formatted logo submitted. Please forward the logo specifications listed below to graphics company.
3. When logo arrives, get contractor's approval & sign off.
4. **Fax to ICM:** signed off logo + P/O referencing logo number. ****Failure to reference a logo number on a P/O may result in plain thermostats being delivered. **Incorrect logo numbers on your P/O result in your customer receiving someone else's logo on their delivered thermostat shipment.**

GRAPHICS SPECIFICATIONS

PLEASE FORWARD TO GRAPHICS COMPANY

1. ***Email logo to:*** **jkocik@icmcontrols.com**
2. **Preferred Formats: Illustrator or FreeHand** with text converted to paths/curves. This prevents having to redraw the logo from scratch.
3. **Submissions must be:** **BLACK and WHITE ONLY** • **NO COLOR** **NO SHADING** **NO GREY-SCALE**
4. Logo can be submitted in either JPG, TIF, or EPS formats
5. Logo scans must be **HI-RESolution • 600+ dpi •b/w only**
   • Low resolution logos acquired from the web are not acceptable
6. **UNACCEPTABLE LOGO FORMATS:**
   Graphics with color or gray scale, BMP formats, Corel Draw files, DAT files, DXF/CAD files, GIF files, **Low-res scans**, MSWord files, Page Maker files, PDFs, PowerPoint files, Quark Xpress files, Window Metafiles and Web images (72 dpi logos downloaded from web sites)

GRAPHICS COMPANY INFO

COMPANY NAME: ______________________

PHONE NUMBER: ______________________

CONTACT PERSON: ______________________

NOTE *If necessary, this page can be used as an actual request form. Simply complete this form, carefully remove this page from the catalog and fax it to 315.233.5282 or the fax number directly below.* **NOTE**

Contractor can choose from any of the following fonts for their logo

Enter font number in provided box on request form (lower left).

FONT #	SAMPLE FONT
1	ICM CONTROLS Made in the USA 800-365-5525
2	ICM CONTROLS Made in the USA 800-365-5525
3	ICM CONTROLS Made in the USA 800-365-5525
4	ICM CONTROLS Made in the USA 800-365-5525
5	ICM CONTROLS Made in the USA 800-365-5525
6	ICM CONTROLS Made in the USA 800-365-5525
7	ICM CONTROLS Made in the USA 800-365-5525

FONT #	SAMPLE FONT
8	ICM CONTROLS Made in the USA 800-365-5525
9	ICM CONTROLS Made in the USA 800–365–5525
10	ICM CONTROLS Made in the USA 800-365-5525
11	ICM CONTROLS Made in the USA 800-365-5525
12	ICM CONTROLS Made in the USA 800-365-5525
13	ICM CONTROLS Made in the USA 800-365-5525
14	ICM CONTROLS Made in the USA 800-365-5525

FONT #	SAMPLE FONT
15	ICM CONTROLS Made in the USA 800-365-5525
16	ICM CONTROLS Made in the USA 800-365-5525
17	ICM CONTROLS MADE IN THE USA 800-365-5525
18	ICM CONTROLS Made in the USA 800–365–5525
19	ICM CONTROLS Made in the USA 800-365-5525
20	ICM CONTROLS Made in the USA 800-365-5525
21	ICM CONTROLS MADE IN THE USA 800–365–5525

SimpleComfort® Custom Logo Thermostats Ordering Recommendations

1. **Read entire Custom Logo Request Form prior to completing it:**
   - If you do not understand something, contact your ICM representative
   - ANY modifications to a previous “signed off” logo require a new request form

2. **Completely fill out request form:**
   - Print appropriate information in blank spaces on form
   - Pay special attention to check boxes
   - If you are choosing a font from the Sample Font Page, make sure the font number appears in the appropriate box on the form (lower left)
   - **DO NOT send in P/O with initial request form** (i.e.: on fax cover page)

3. It is especially important to note that you should contact the customer’s graphics company to get a properly formatted logo emailed to ICM. Contact the graphics company and review with them items 1-6 under “Graphics Specifications” on the Custom Logo Request Form. They will understand the terminology.

4. Get a commitment from the graphics company as to when the graphic will be emailed to ICM. Note this date on the request form and follow up to verify the logo was sent by the graphics company and received by ICM.

5. If the graphics company charges a fee to transmit the logo to ICM, the customer is responsible for that fee.

6. If the “Accommodations have been made...” box was checked under Logo Origin, and no logo is submitted, there will be no completed thermostats.

7. Fax in completed request form and a clean/enlarged copy of the customer’s logo, and be sure the logo is exactly what the customer wants; if there is something on the logo that will not go on the thermostat, please cross it off.

8. The finished drawing will be assigned a logo number that will begin with the letter “L”. **Reference this number on your purchase order AFTER you receive the drawing;**
   - Failure to reference this “L” number on your P/O may result in the customer receiving blank thermostats. New covers with new logo are $3.75 each
   - Referencing an incorrect or outdated logo number will result in wrong covers

9. Sign offs with purchase orders are expected within 10 days of the drawing’s completion. Both signed off drawing and purchase order (referencing a specific “L” number) must be faxed to ICM to complete the order. Failure to submit one or the other will cause delays.

ICM offers a wide variety of selling tools, and displays.

Please contact your ICM Controls sales representative for more information.

Part No.	Description
ICM002	ICM Screwdriver, reversible Phillips head/flat head, with pocket clip
ICM450 Demo	3-Phase motor protection demonstration unit
Display-36PB	Standard merchandising display kit with 36” header and pegboard backer sheets
Display-48PB	Standard merchandising display kit with 48” header and pegboard backer sheets
Display-36SW	Standard merchandising display kit with 36” header and slatwall backer sheet
Display-48SW	Standard merchandising display kit with 48” header and slatwall backer sheet
LIM139	Big Buddy display header
LIM134	Authorized ICM Controls Distributor window decal
Note: *Some restrictions may apply. Please contact your ICM Controls sales representative for more information.*	

Display-36PB



LIM134



Promote ICM Controls products with the use of pegboard/slatwall displays.

Call your local sales representative for available options!

LIM139

